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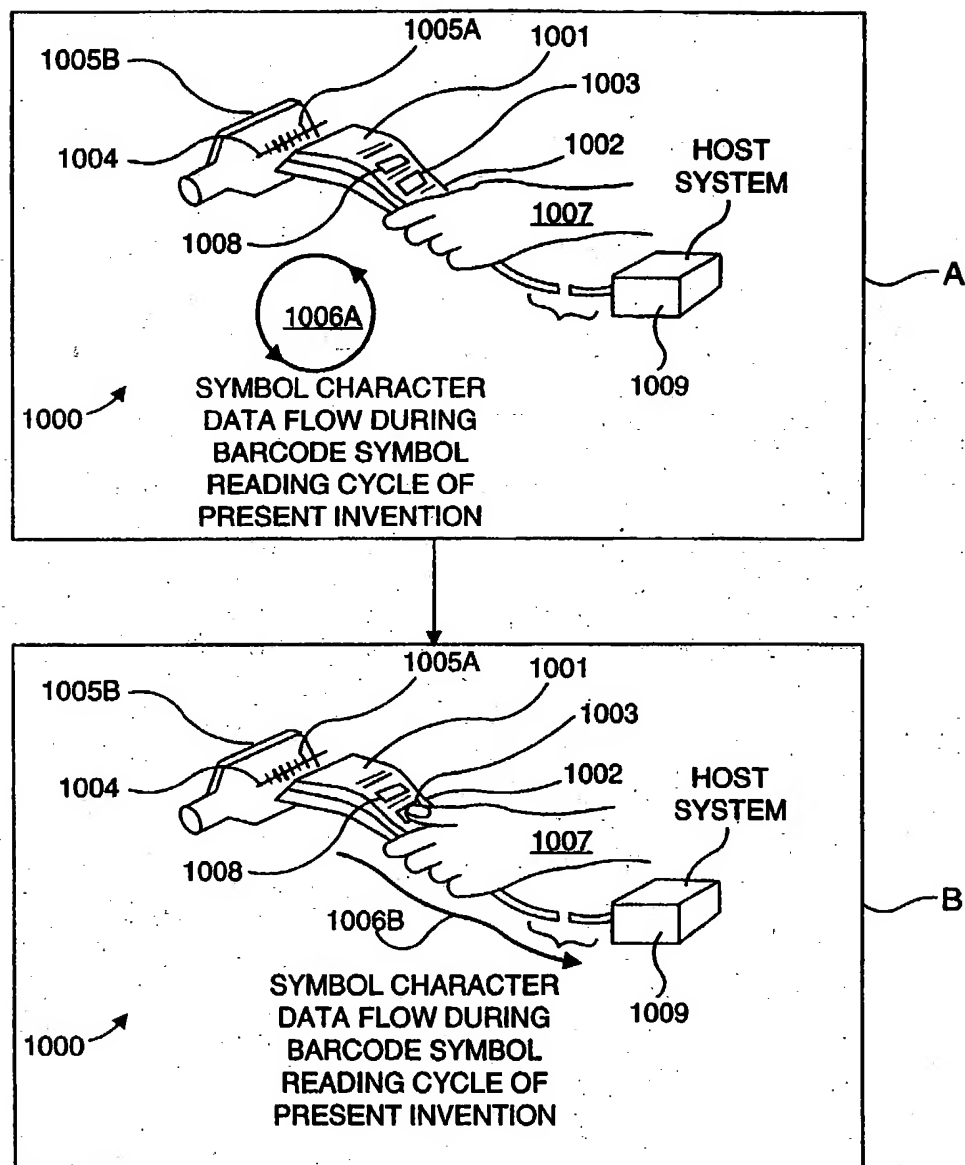


FIG. 1

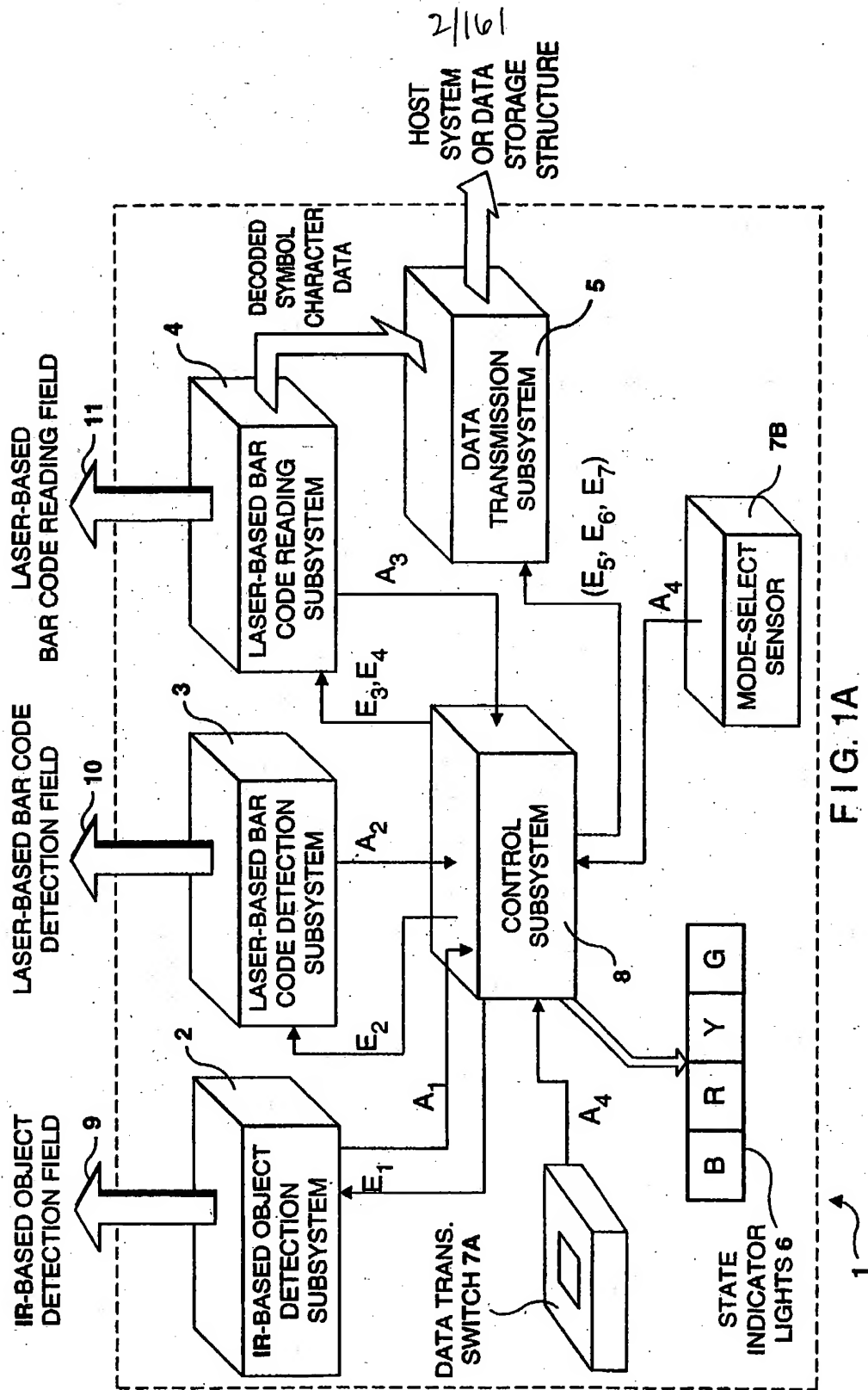


FIG. 1A

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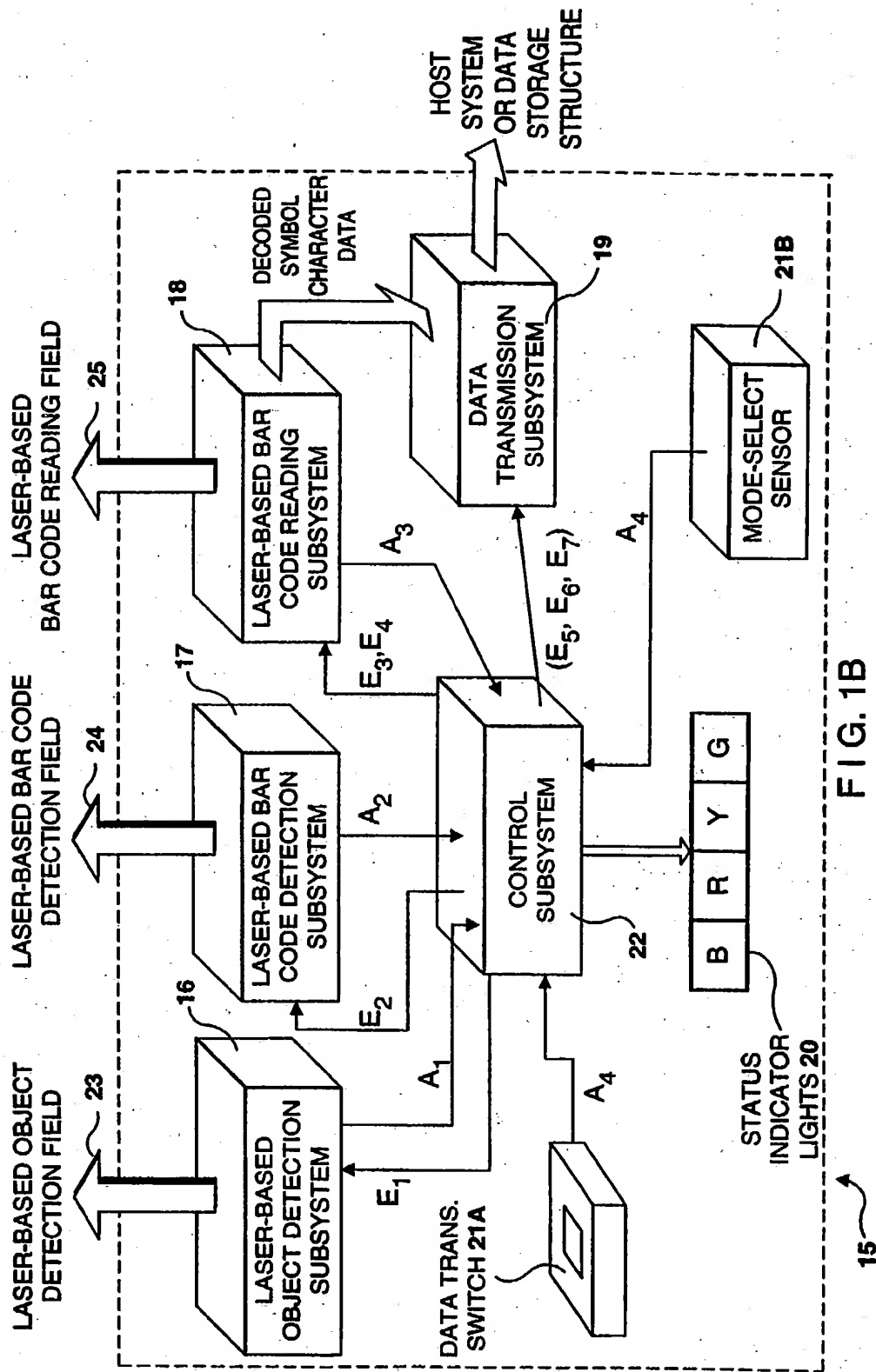


FIG. 1B

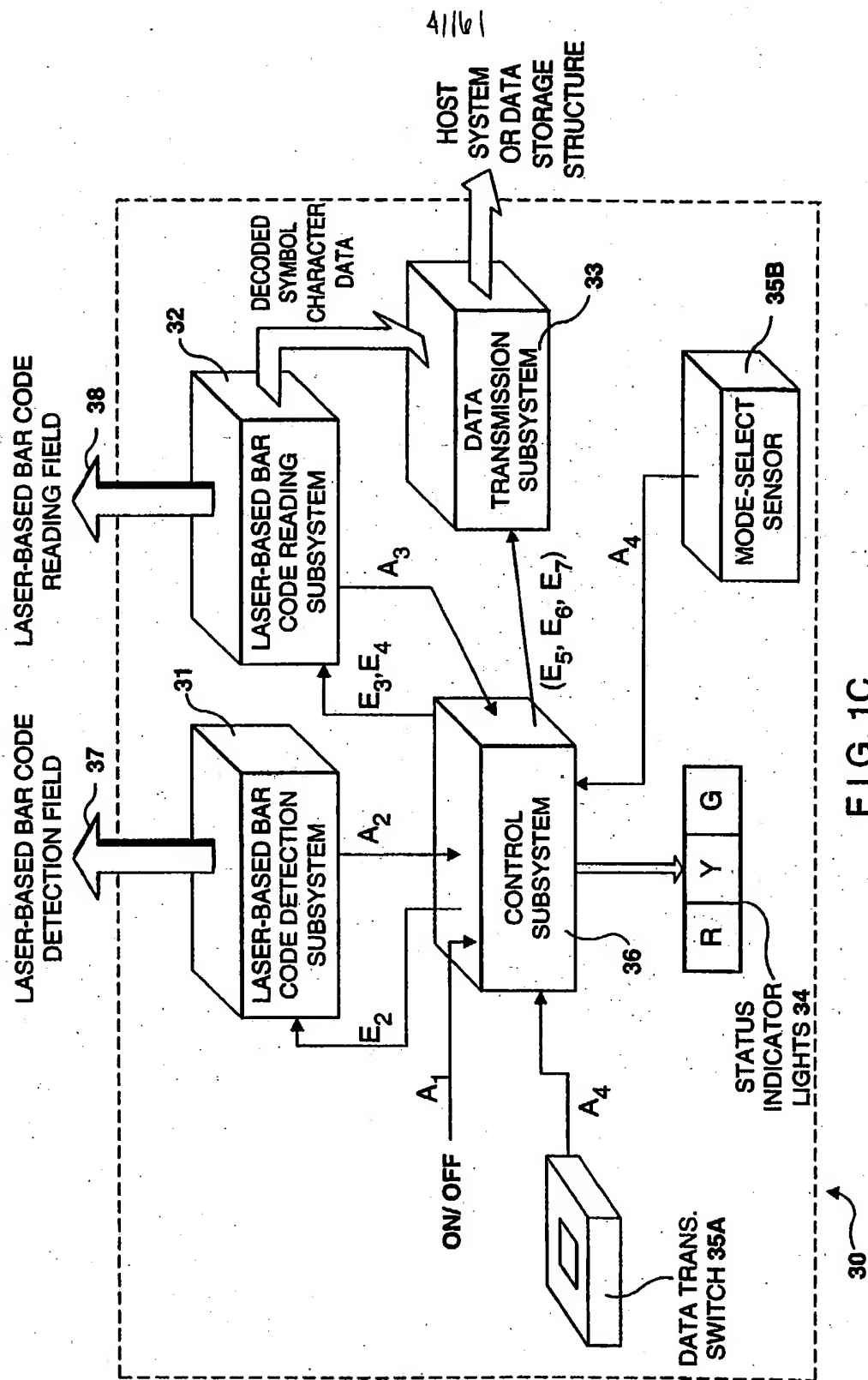


FIG. 1C



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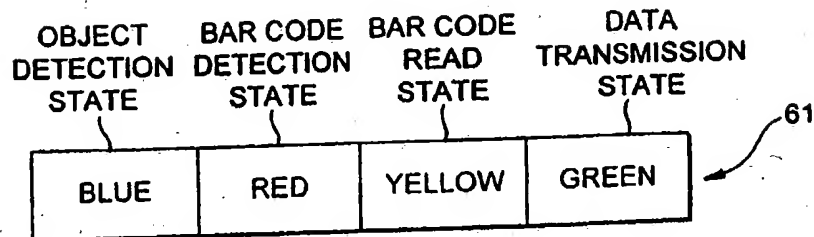
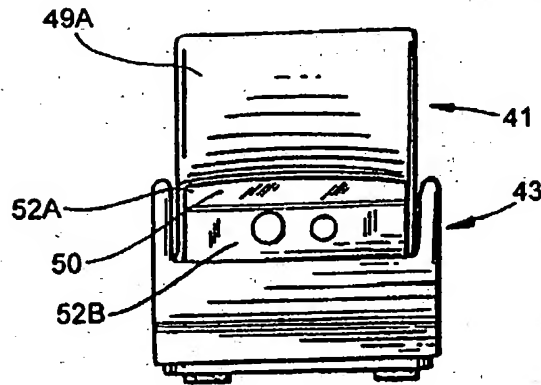
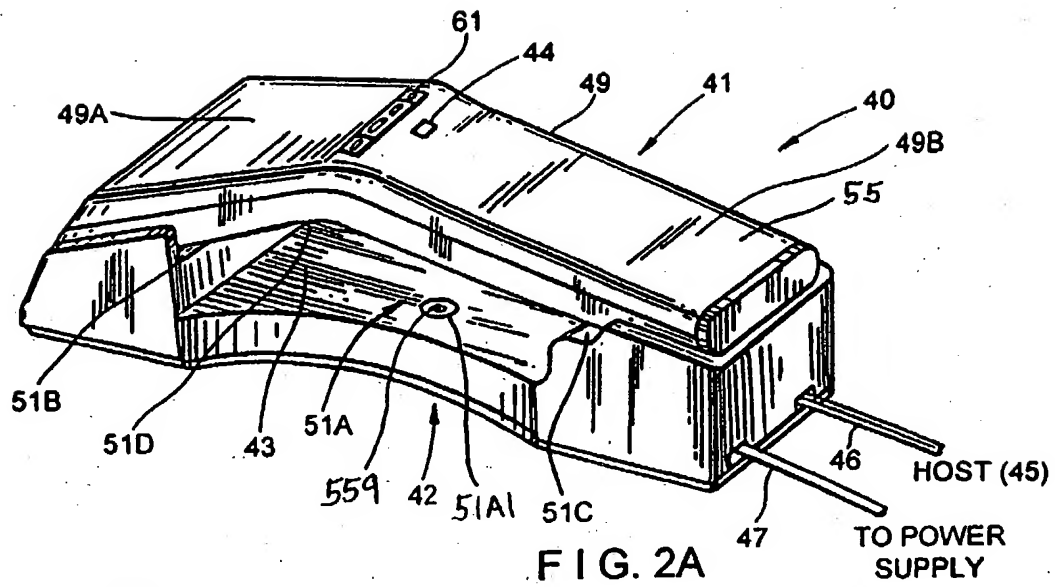
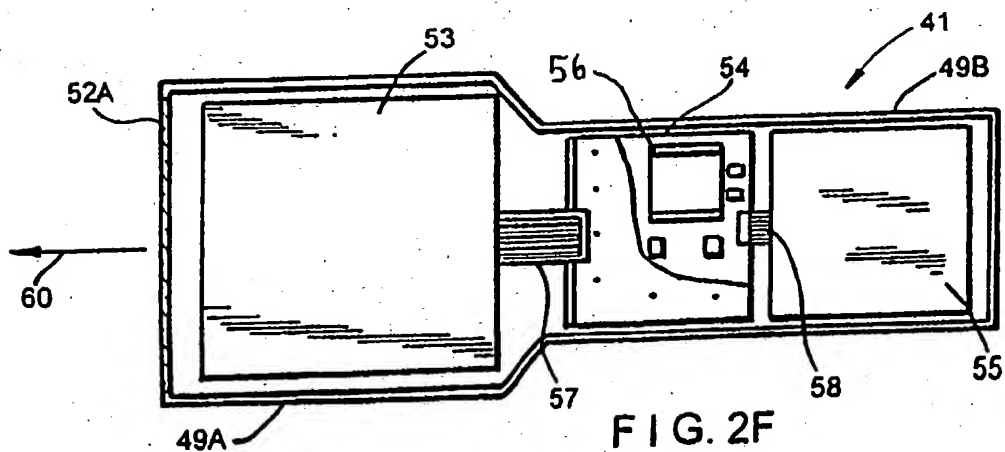
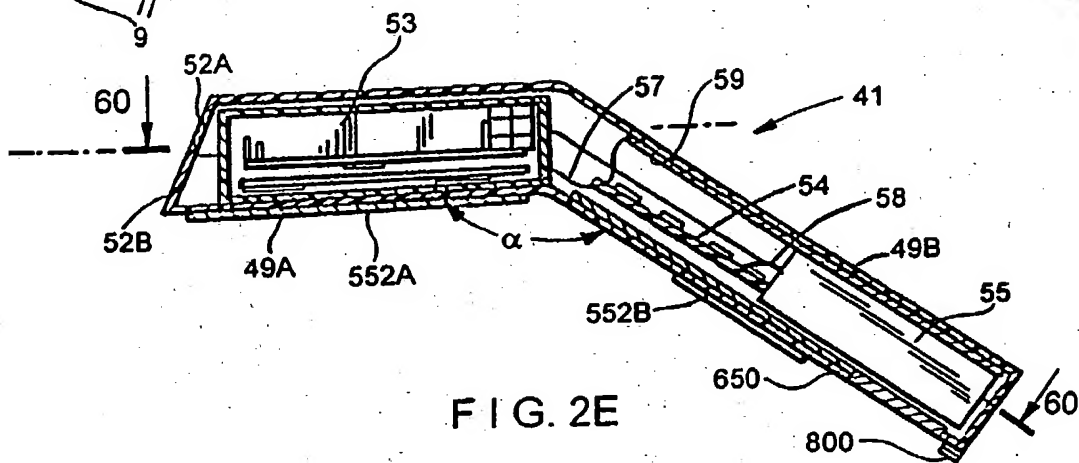
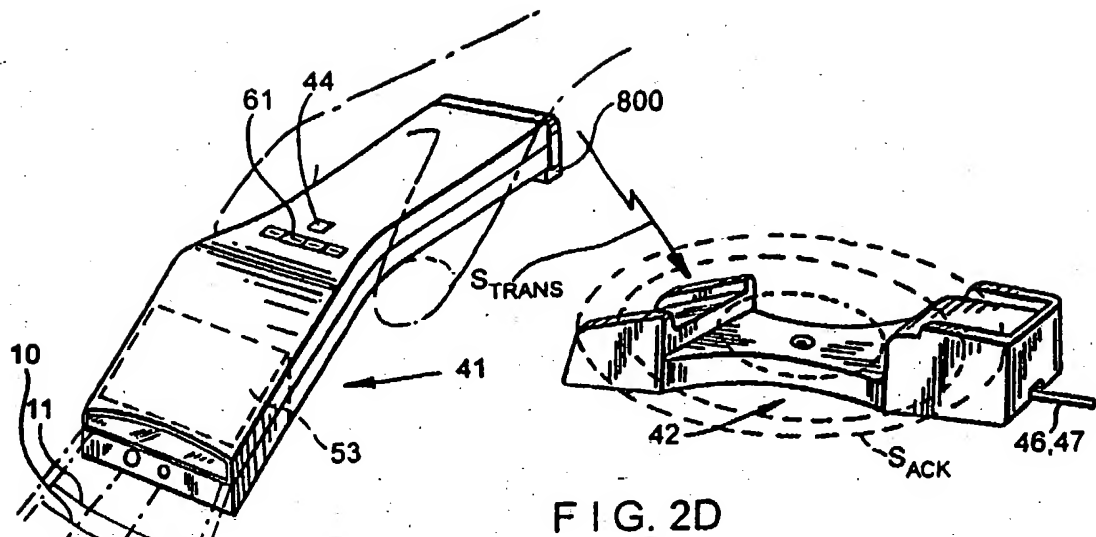


FIG. 2C

61(61)



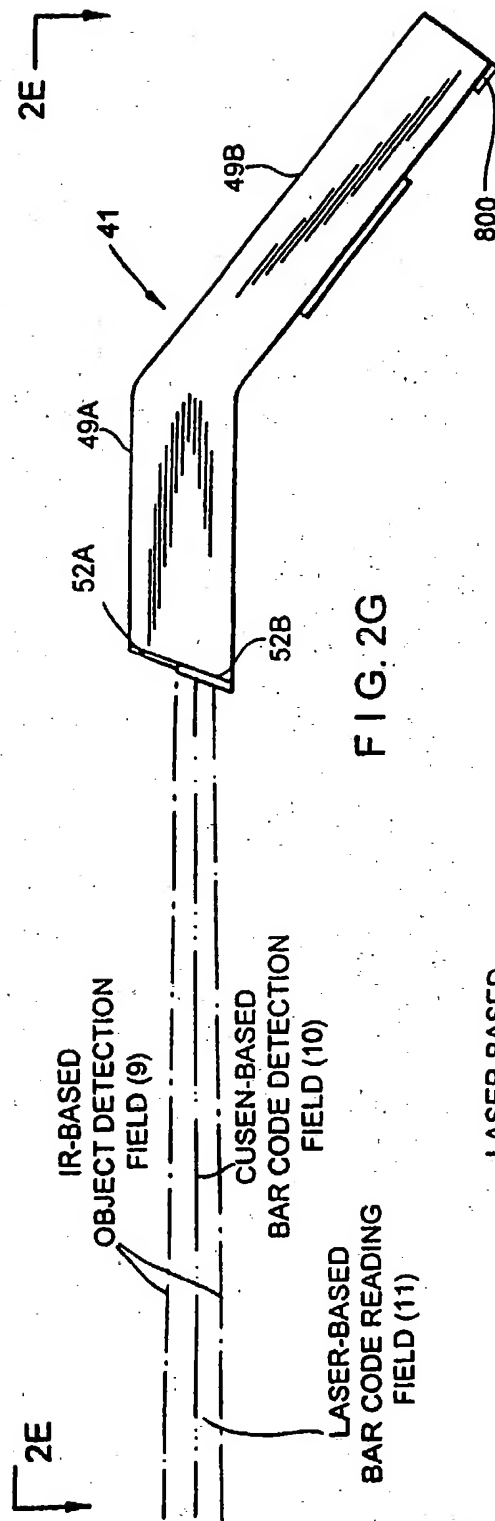


FIG. 2G

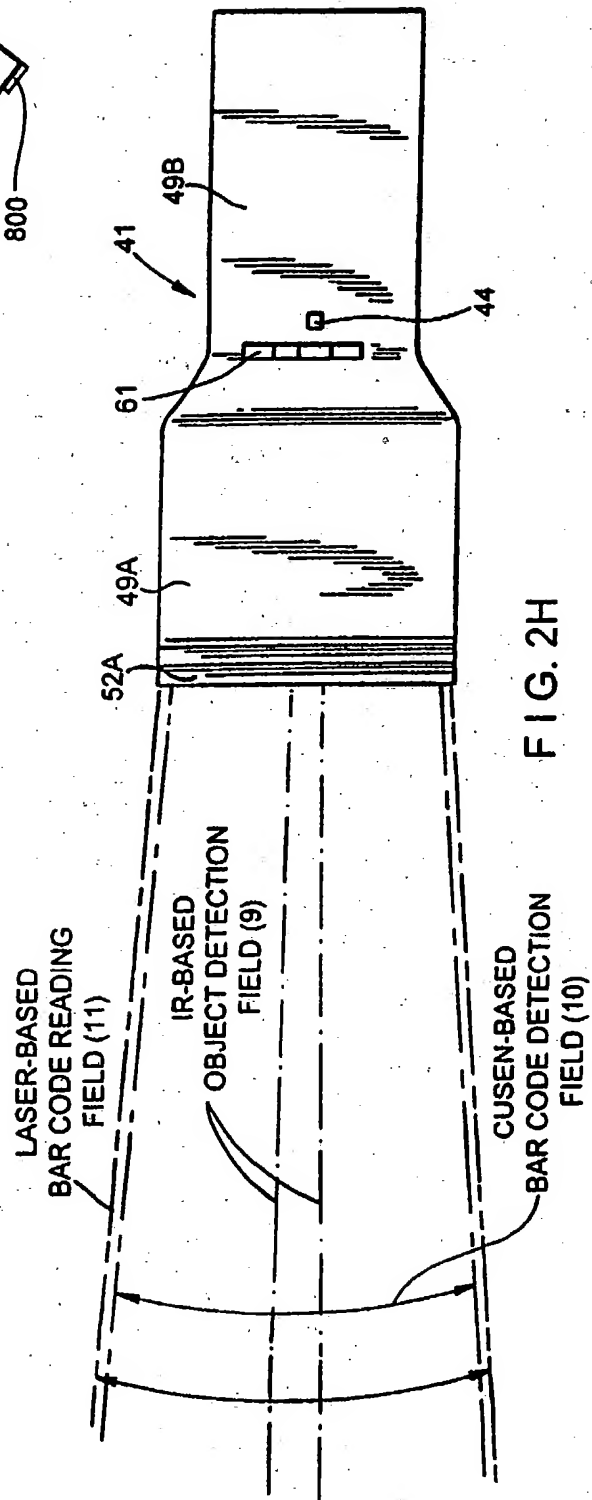


FIG. 2H

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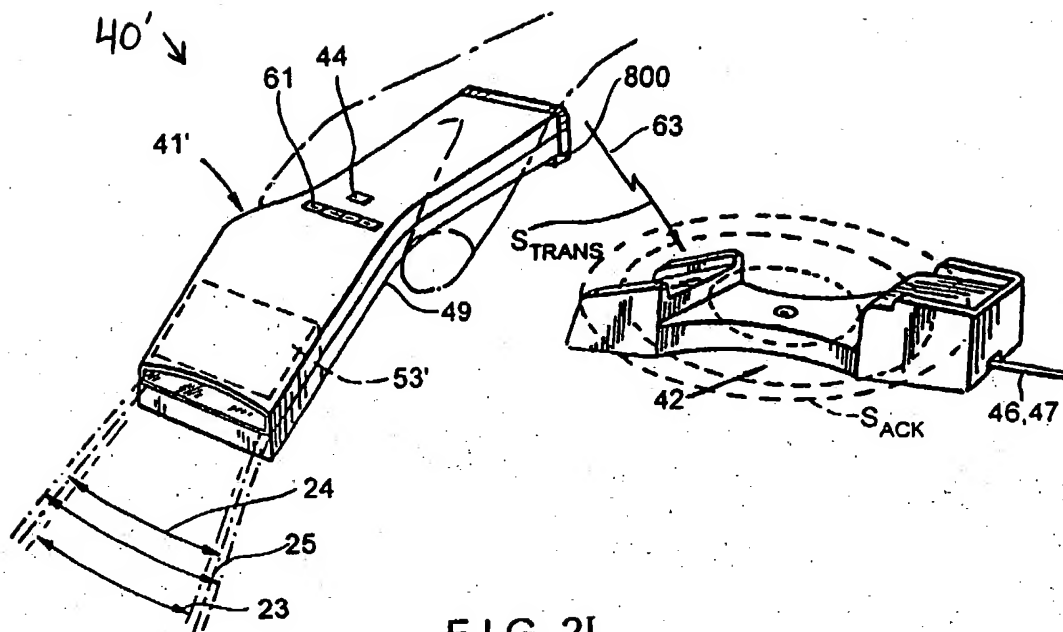


FIG. 2I

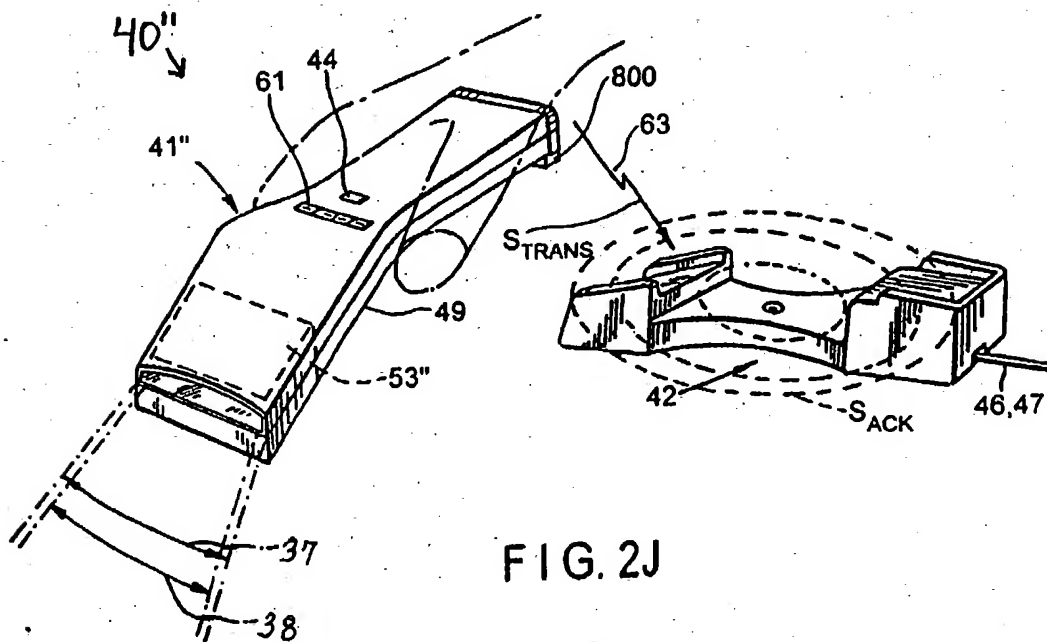
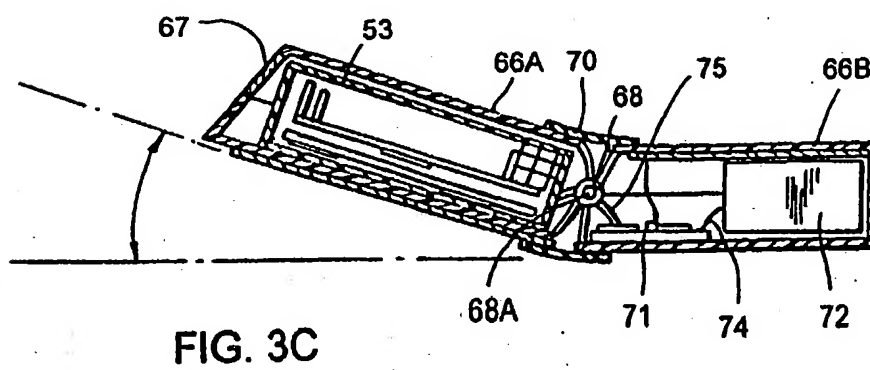
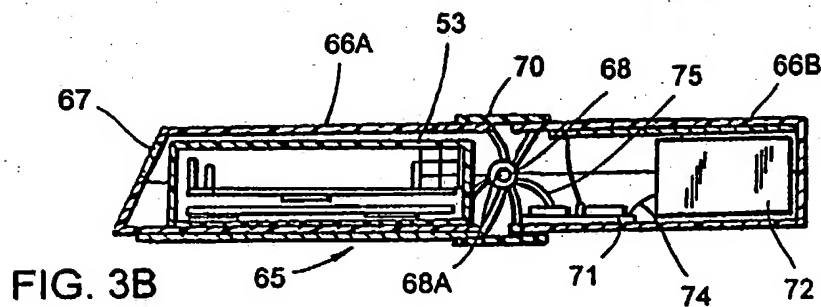
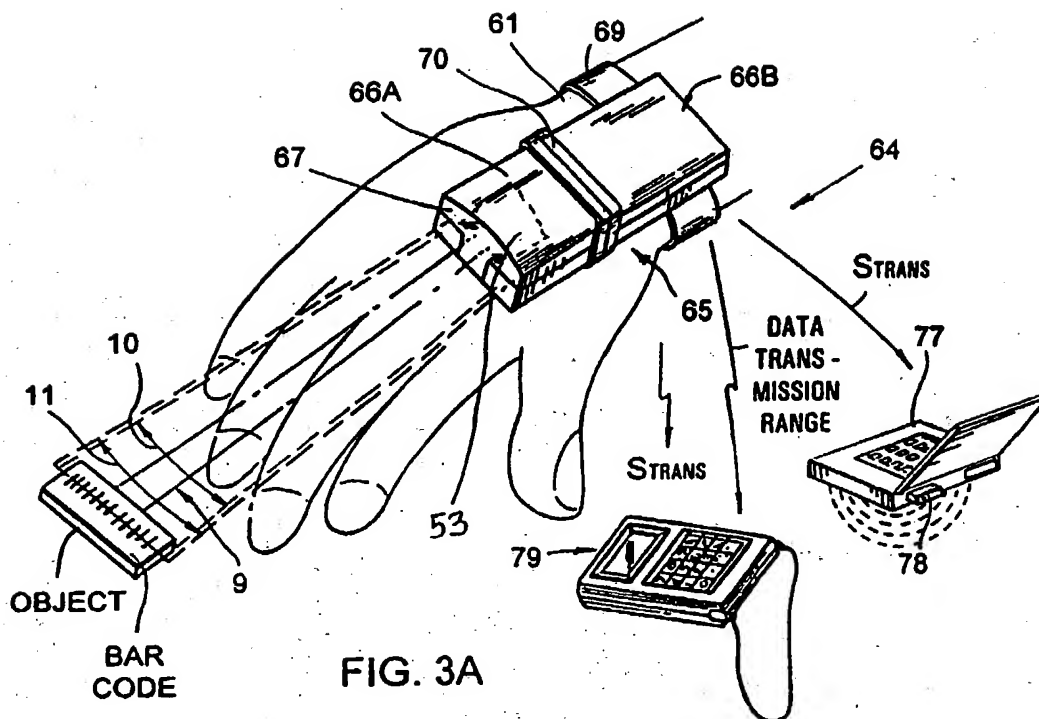
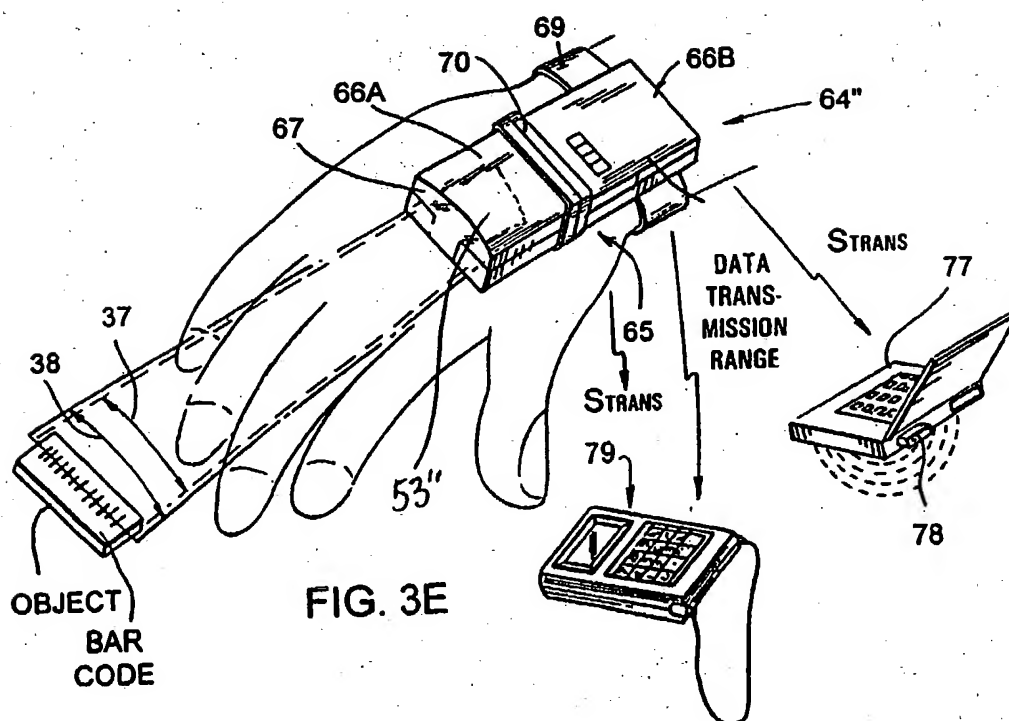
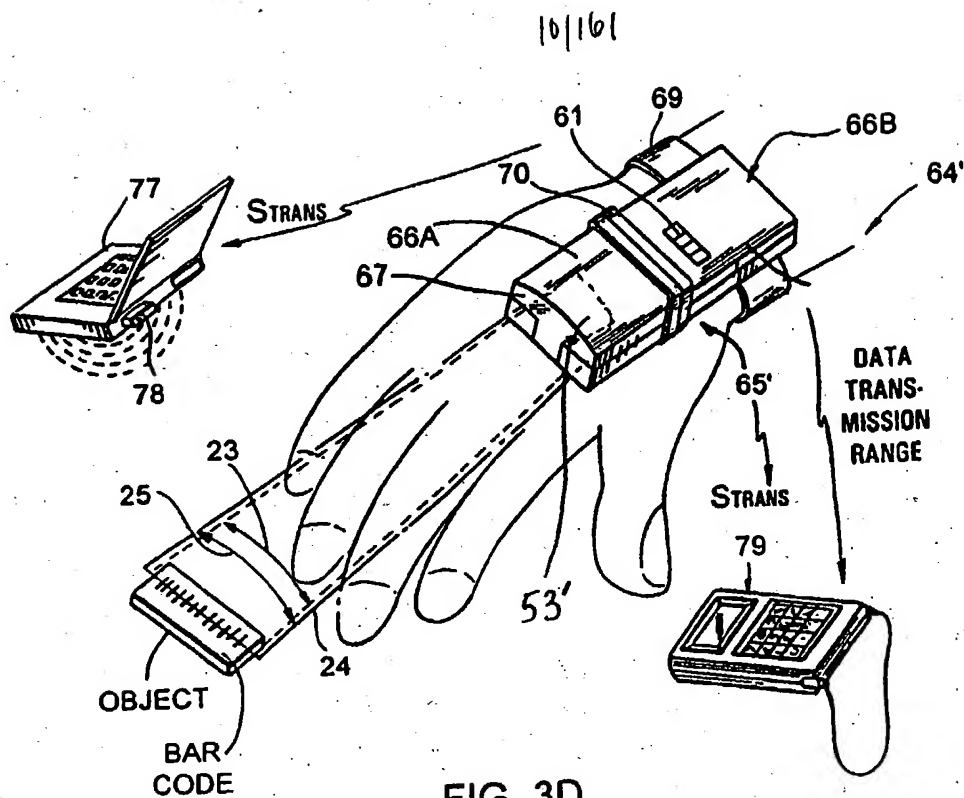


FIG. 2J

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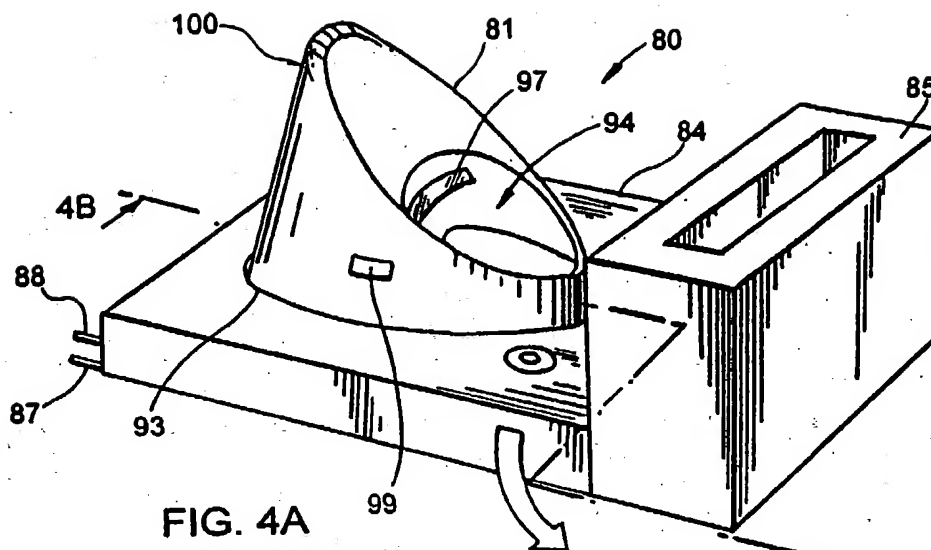


FIG. 4A

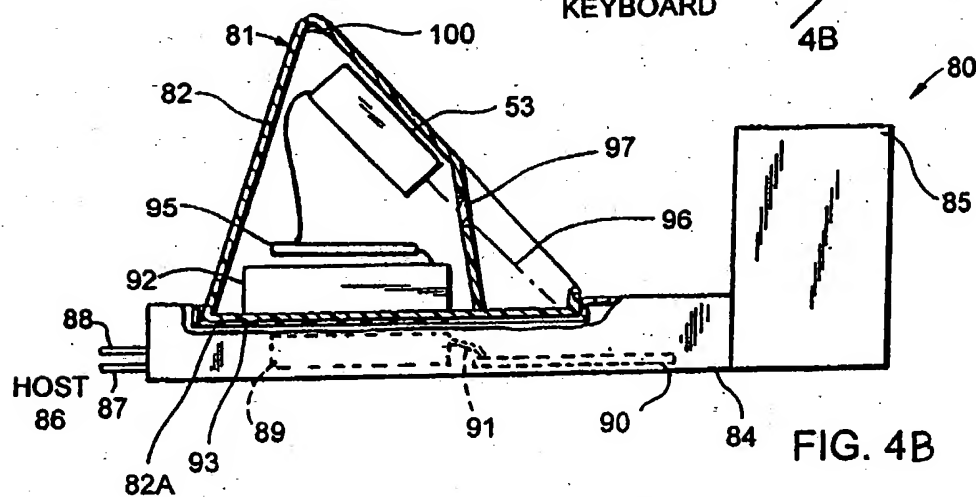


FIG. 4B

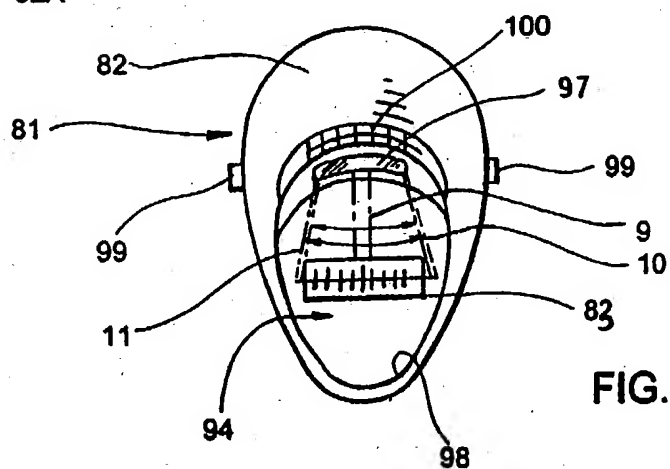
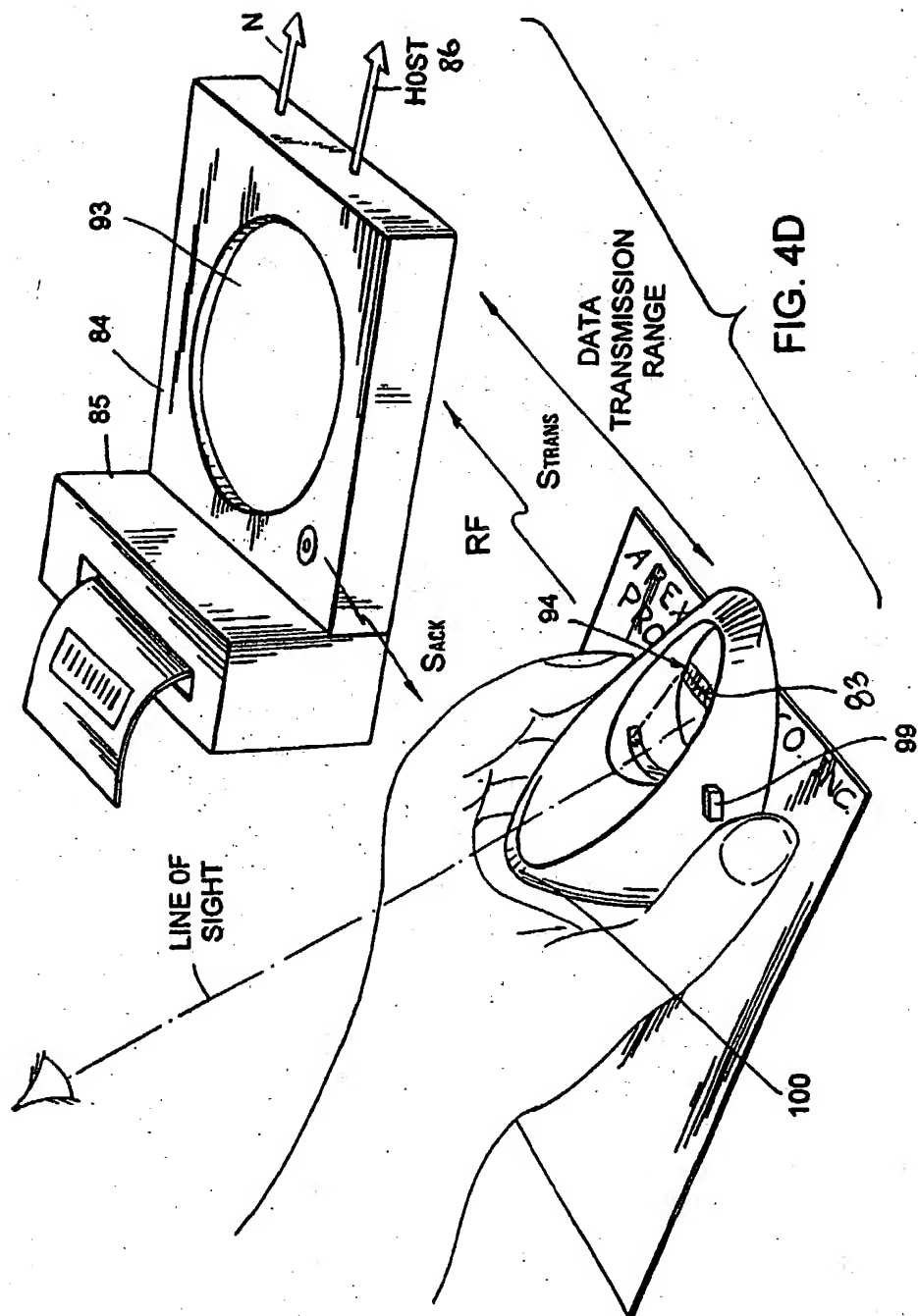


FIG. 4C

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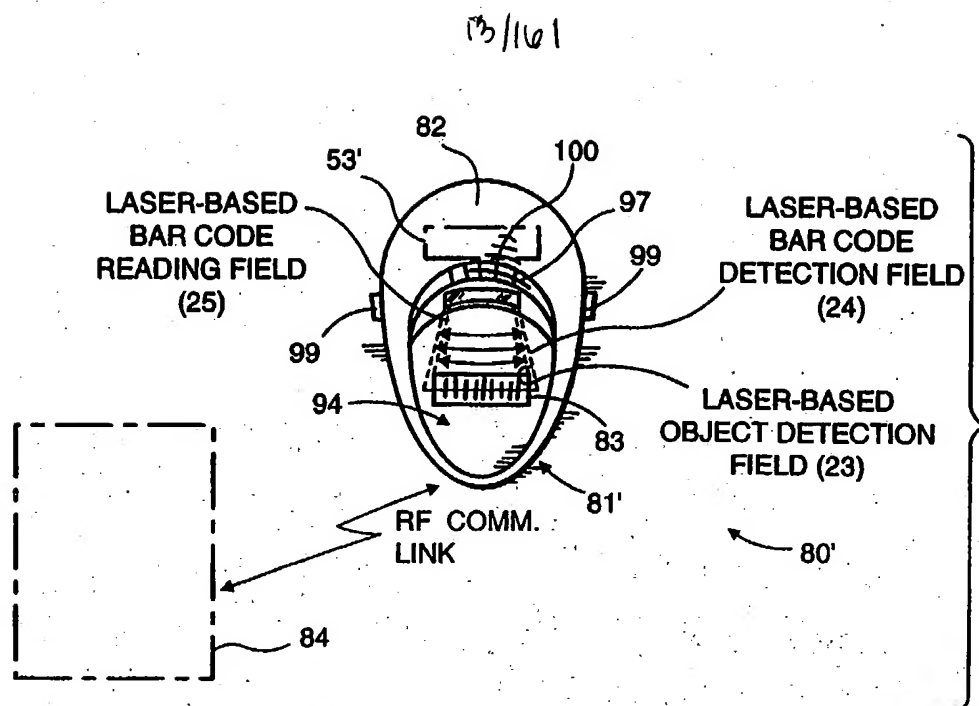


FIG. 4E

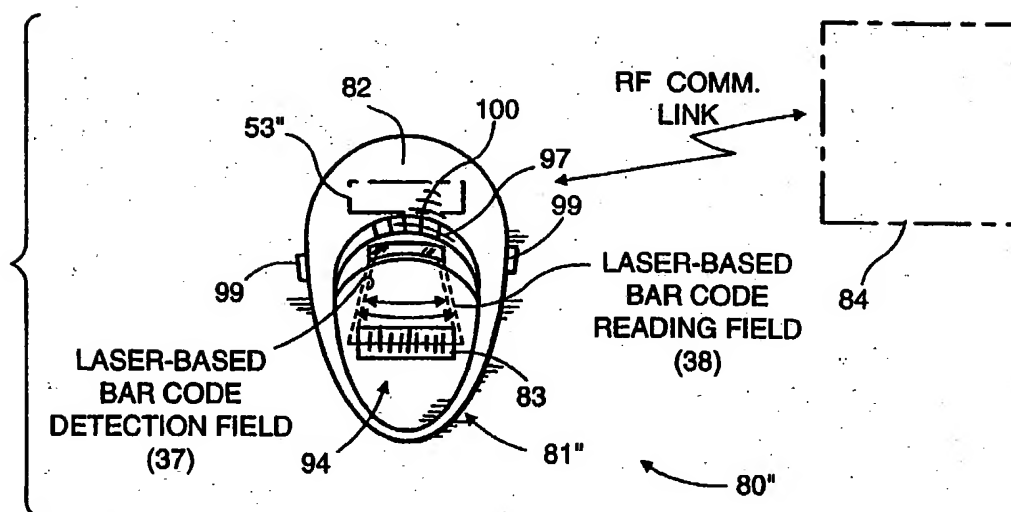


FIG. 4F

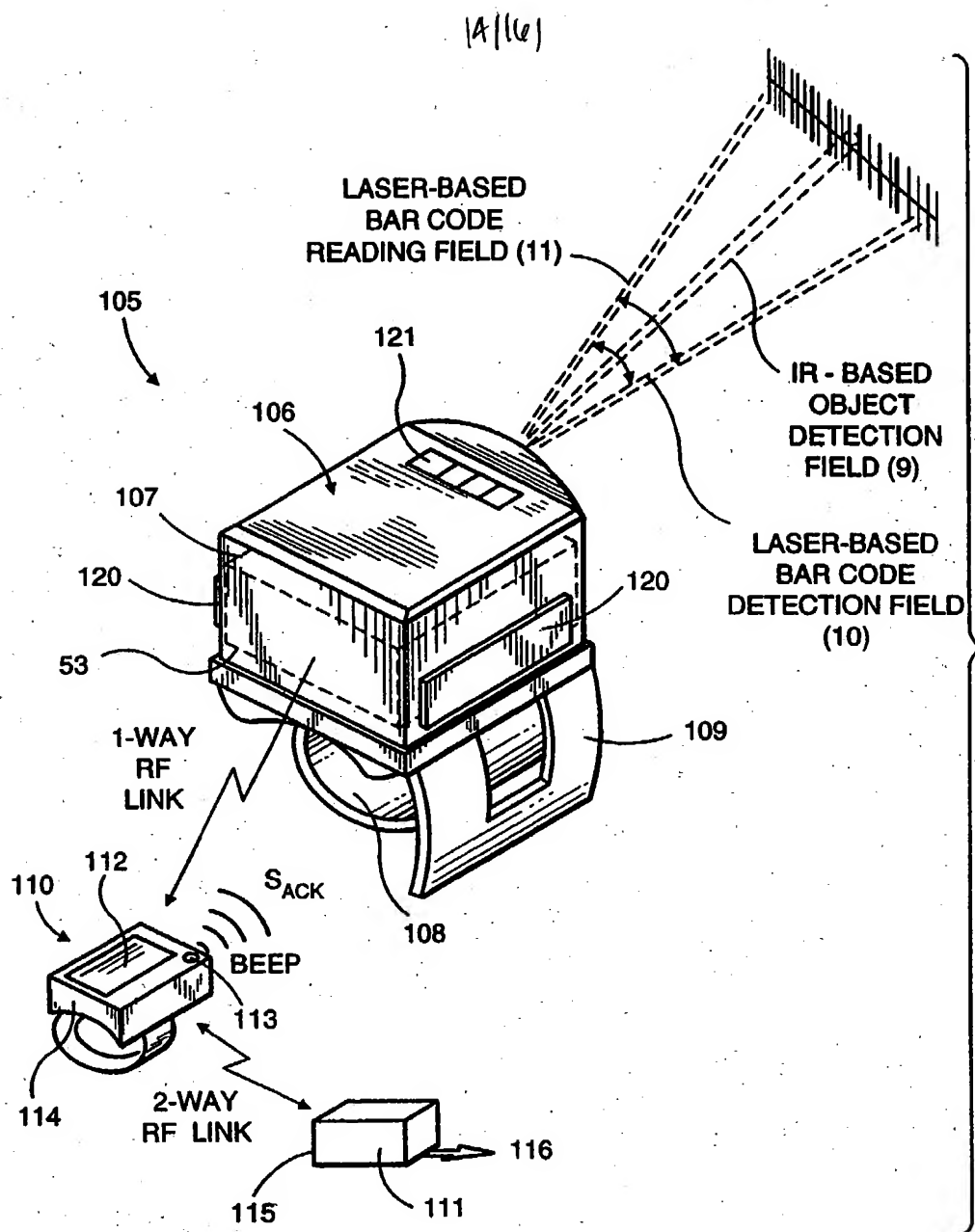


FIG. 5A

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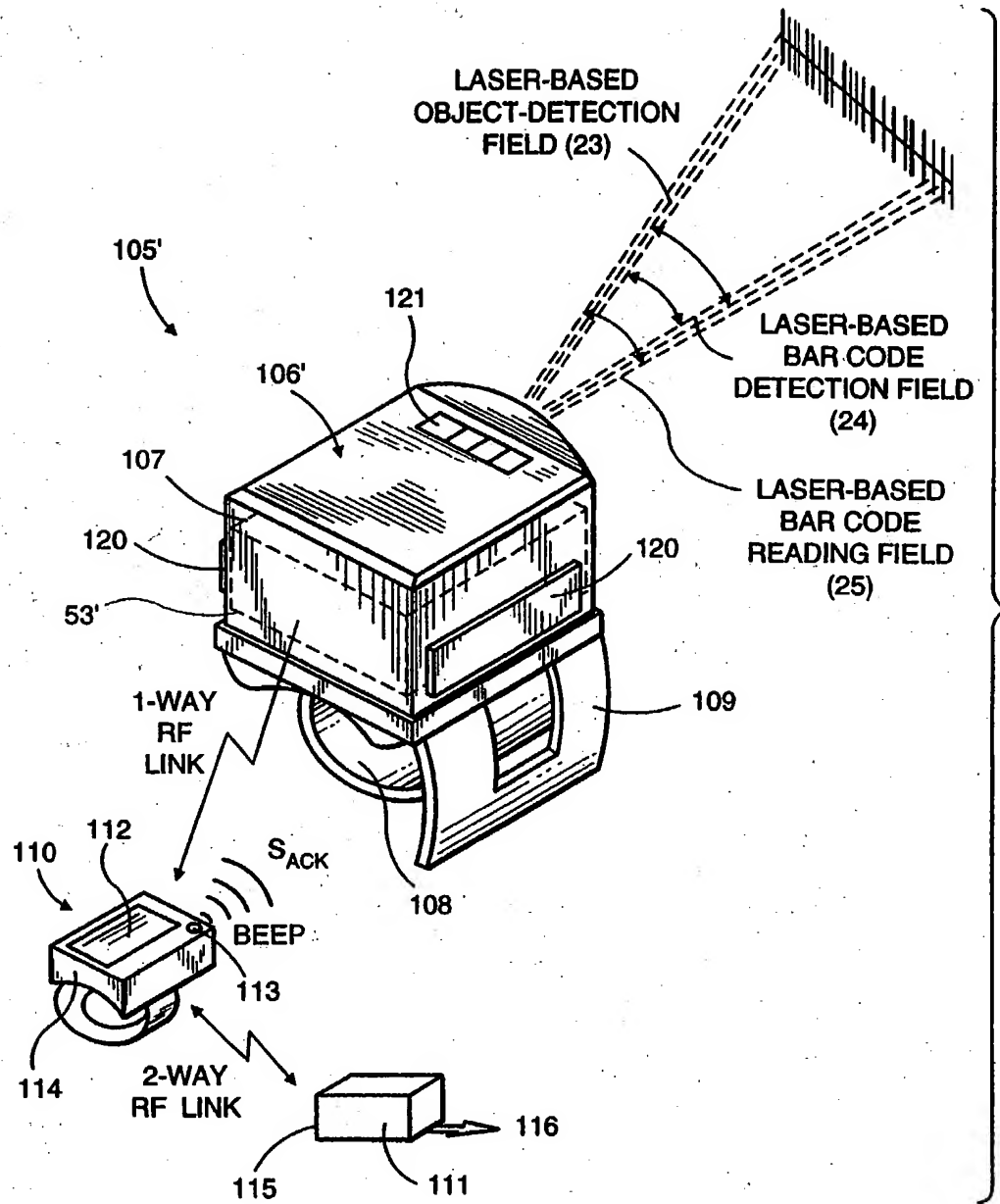


FIG. 5B

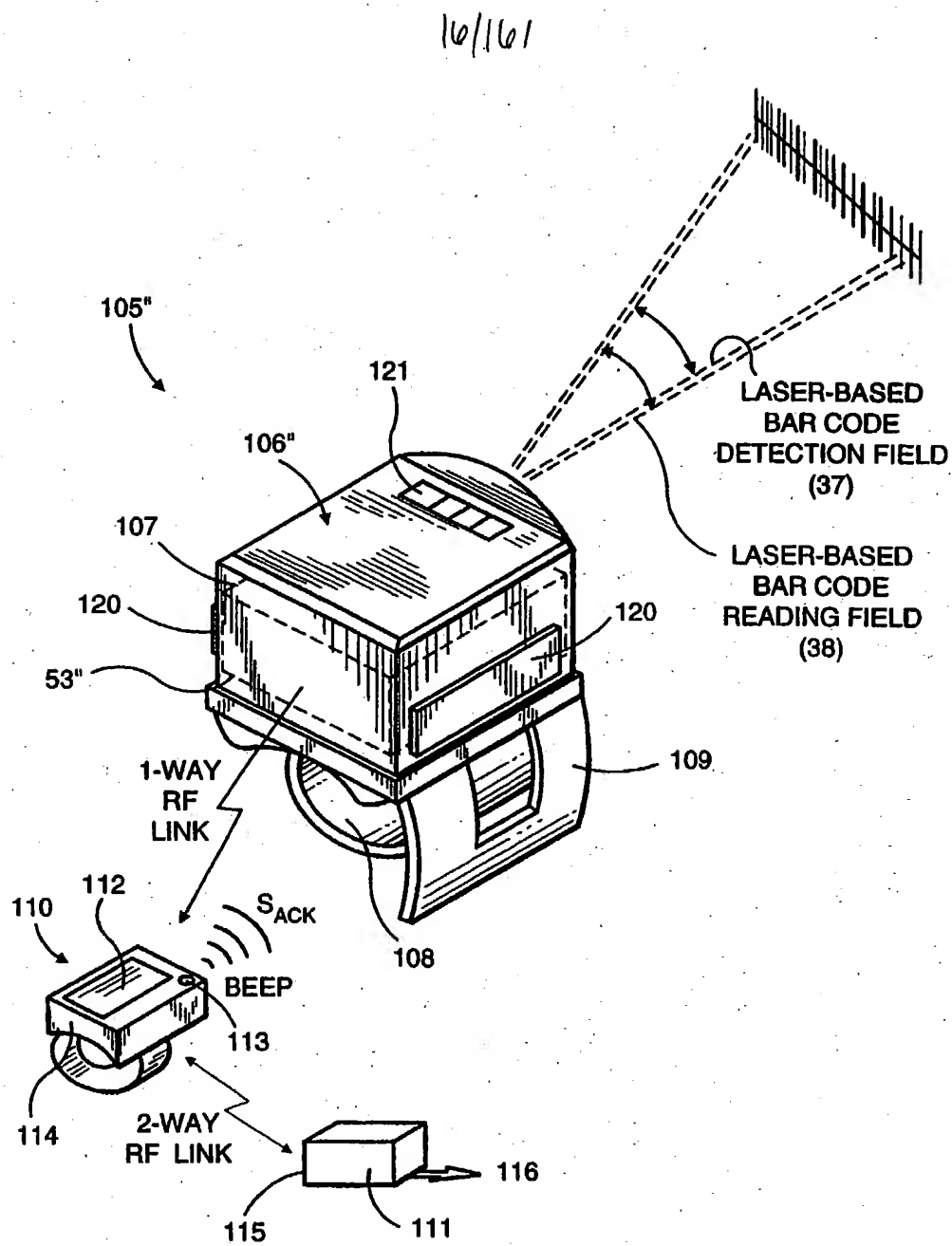


FIG. 5C

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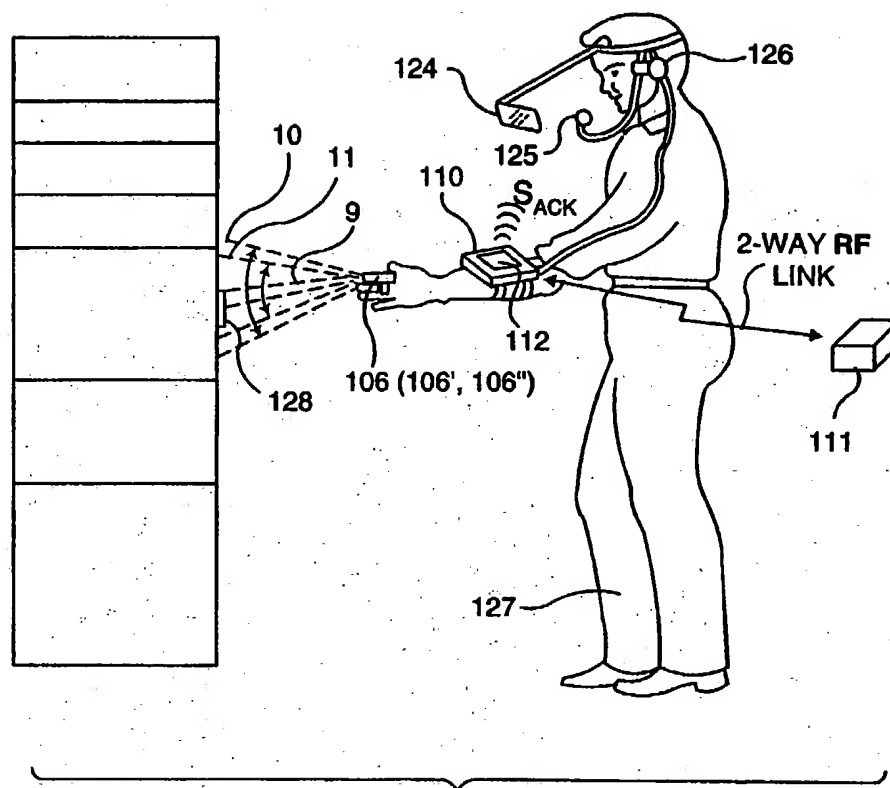


FIG. 5D

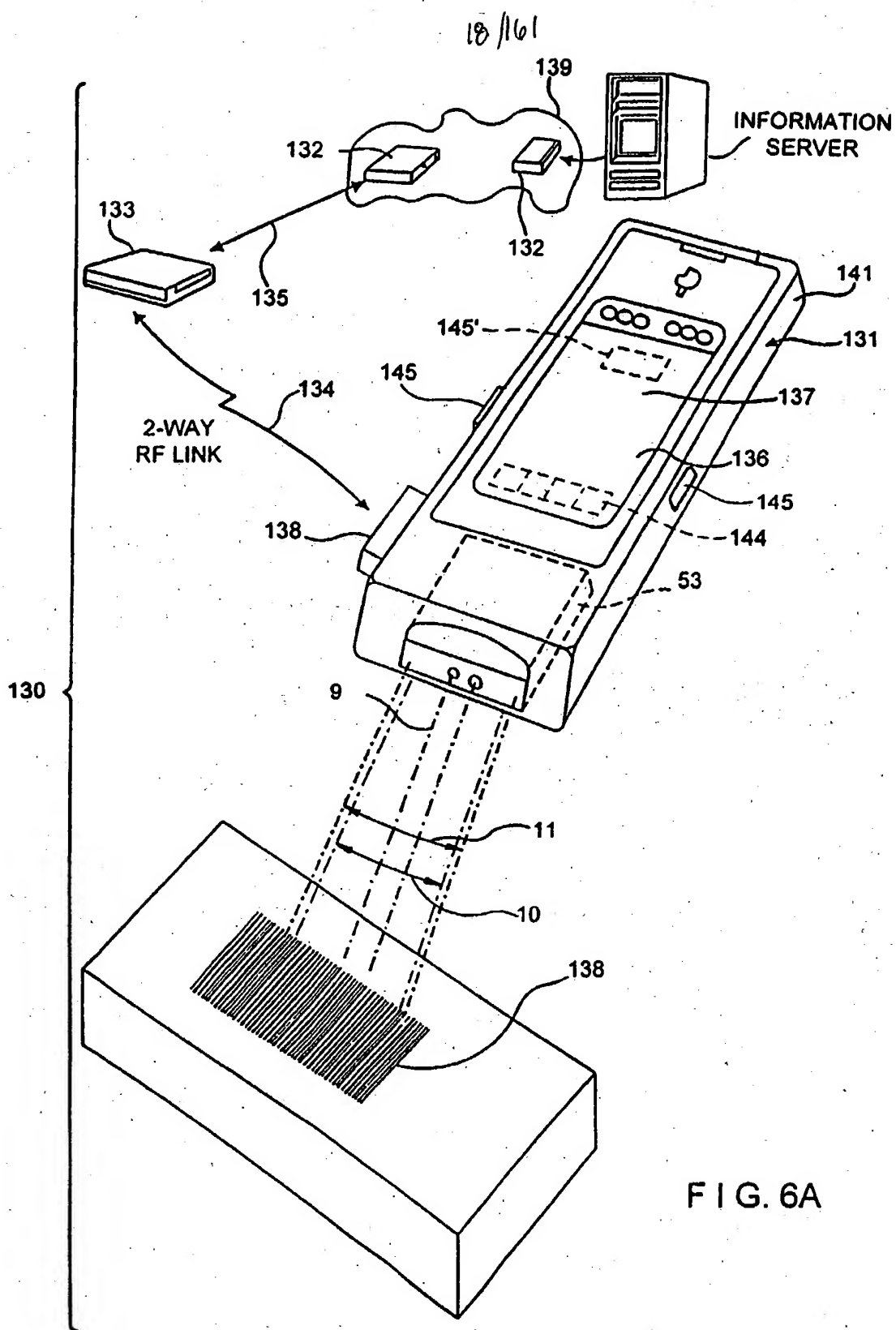
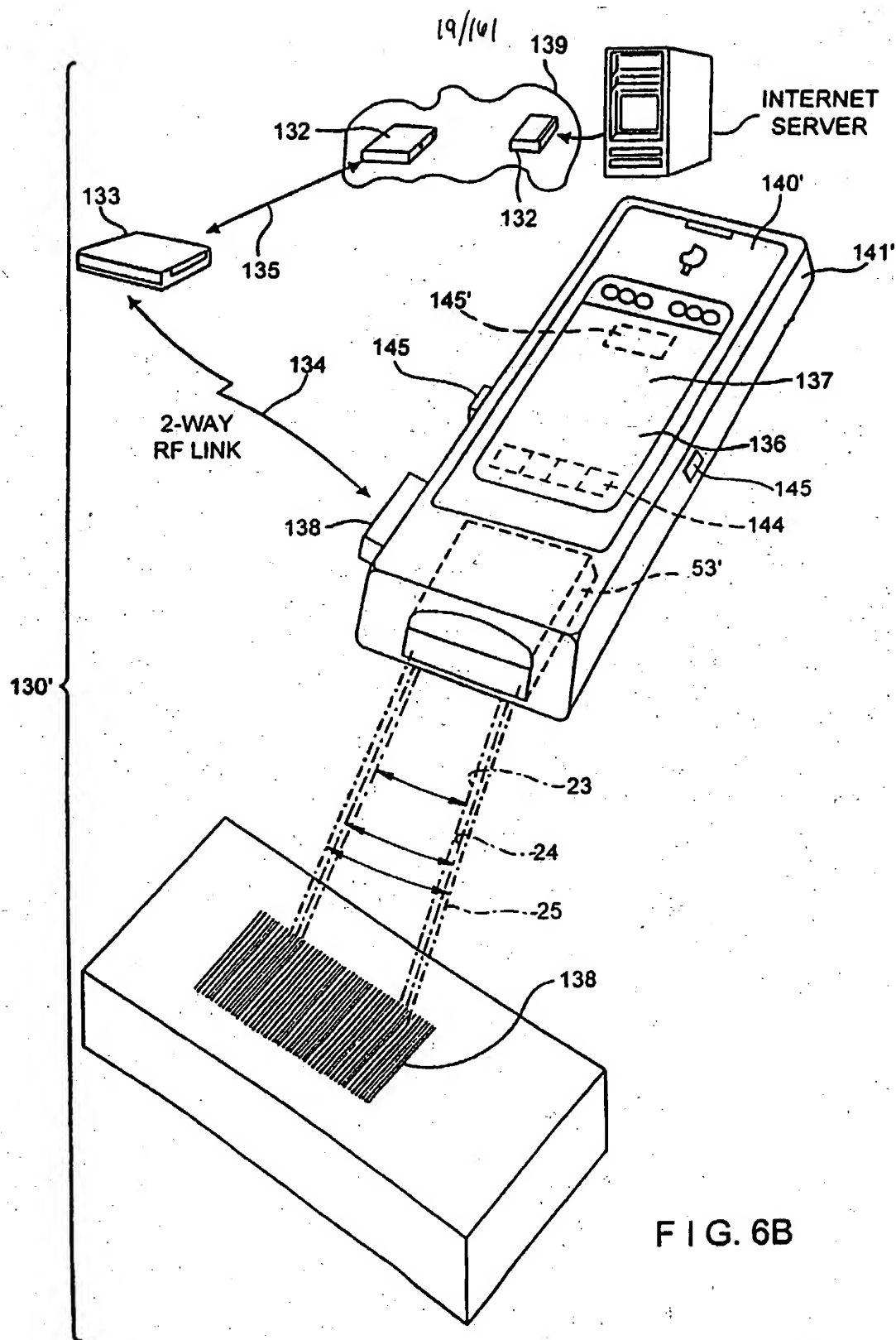
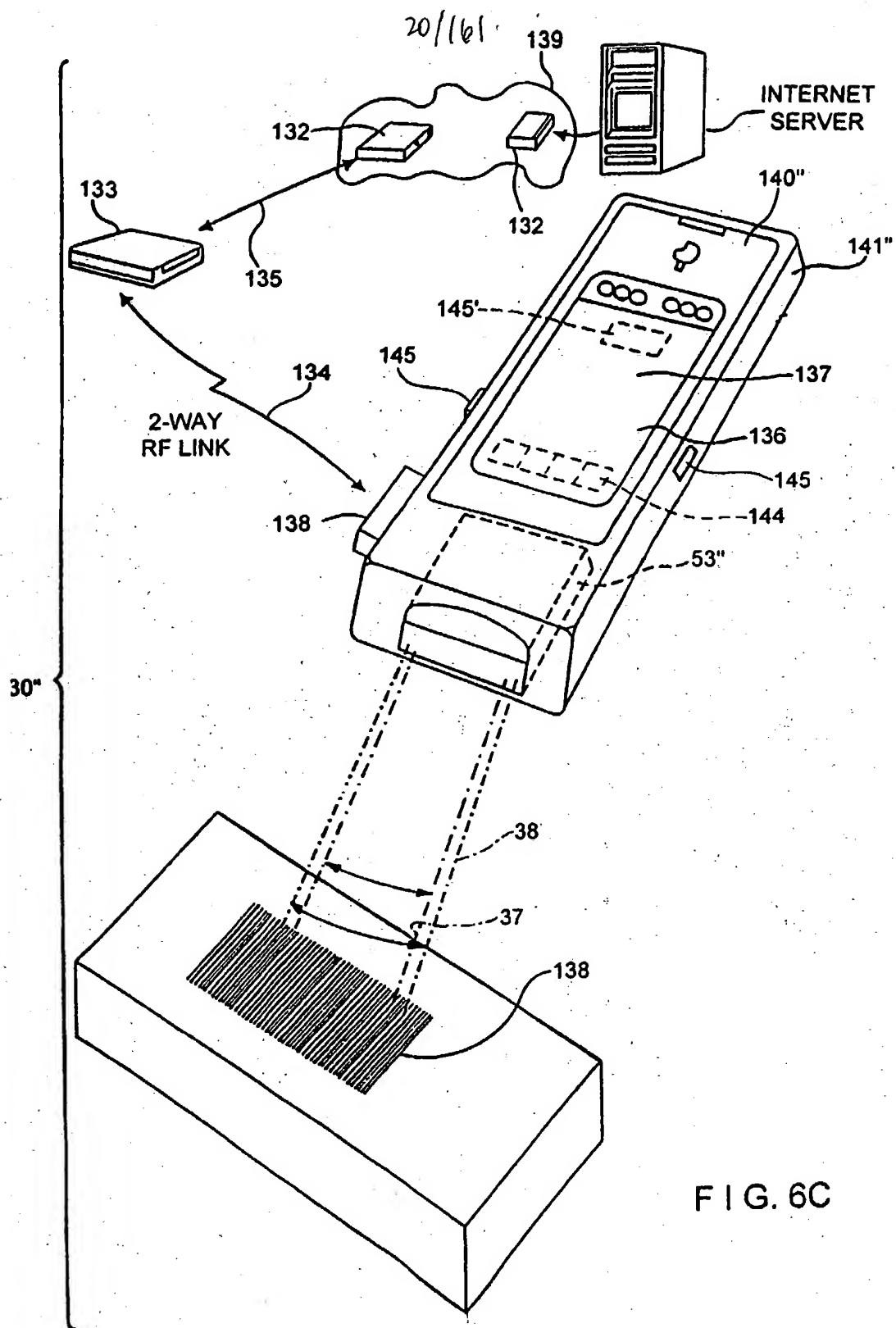


FIG. 6A







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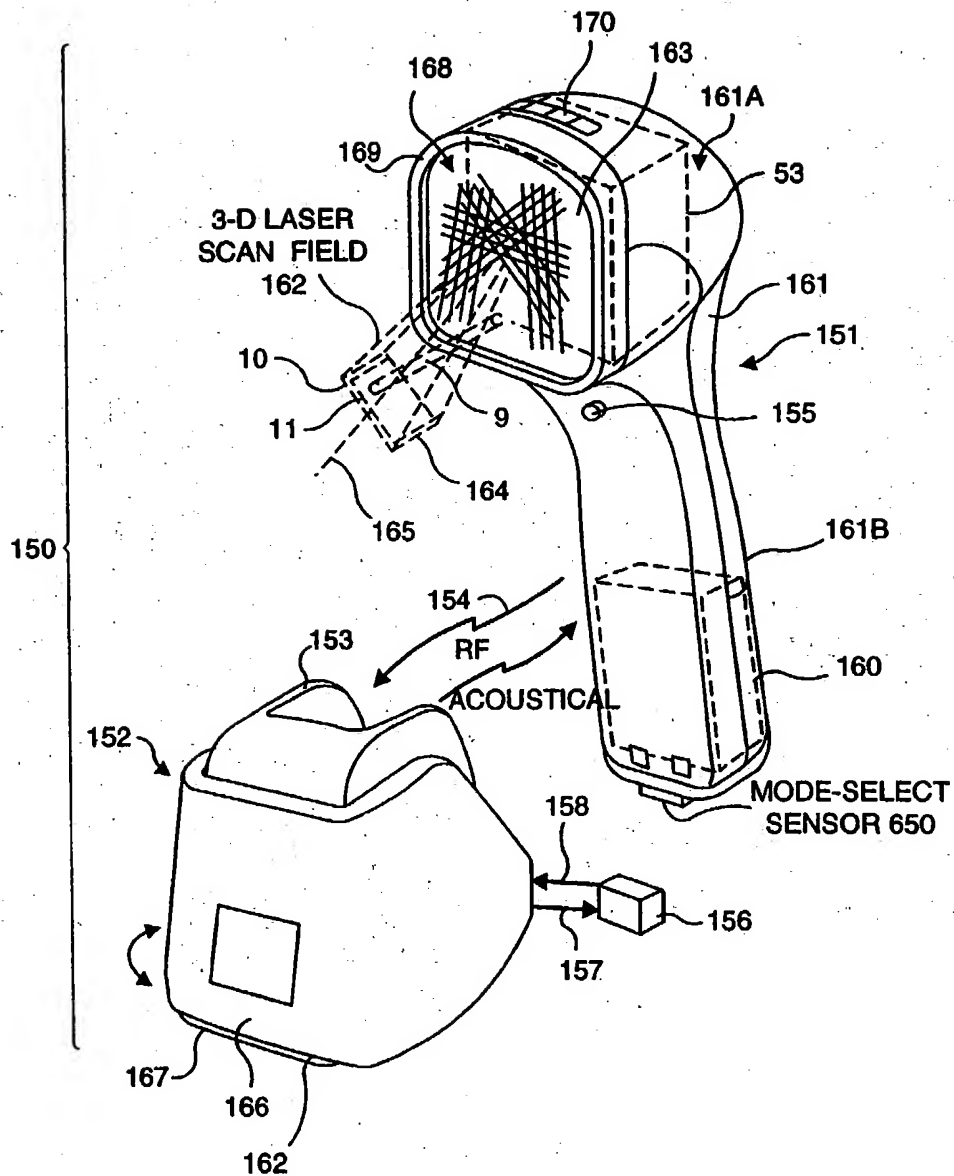


FIG. 7A

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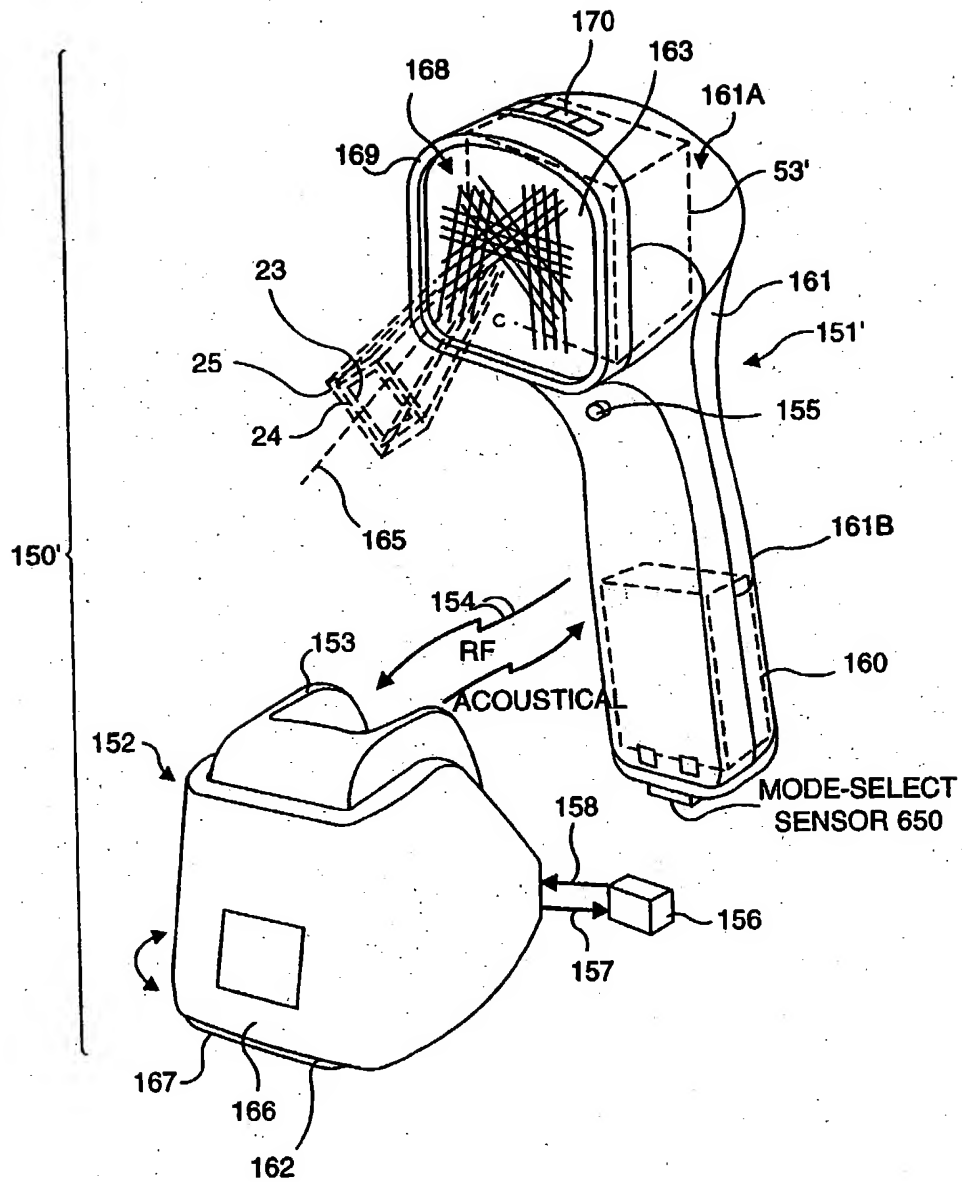


FIG. 7B

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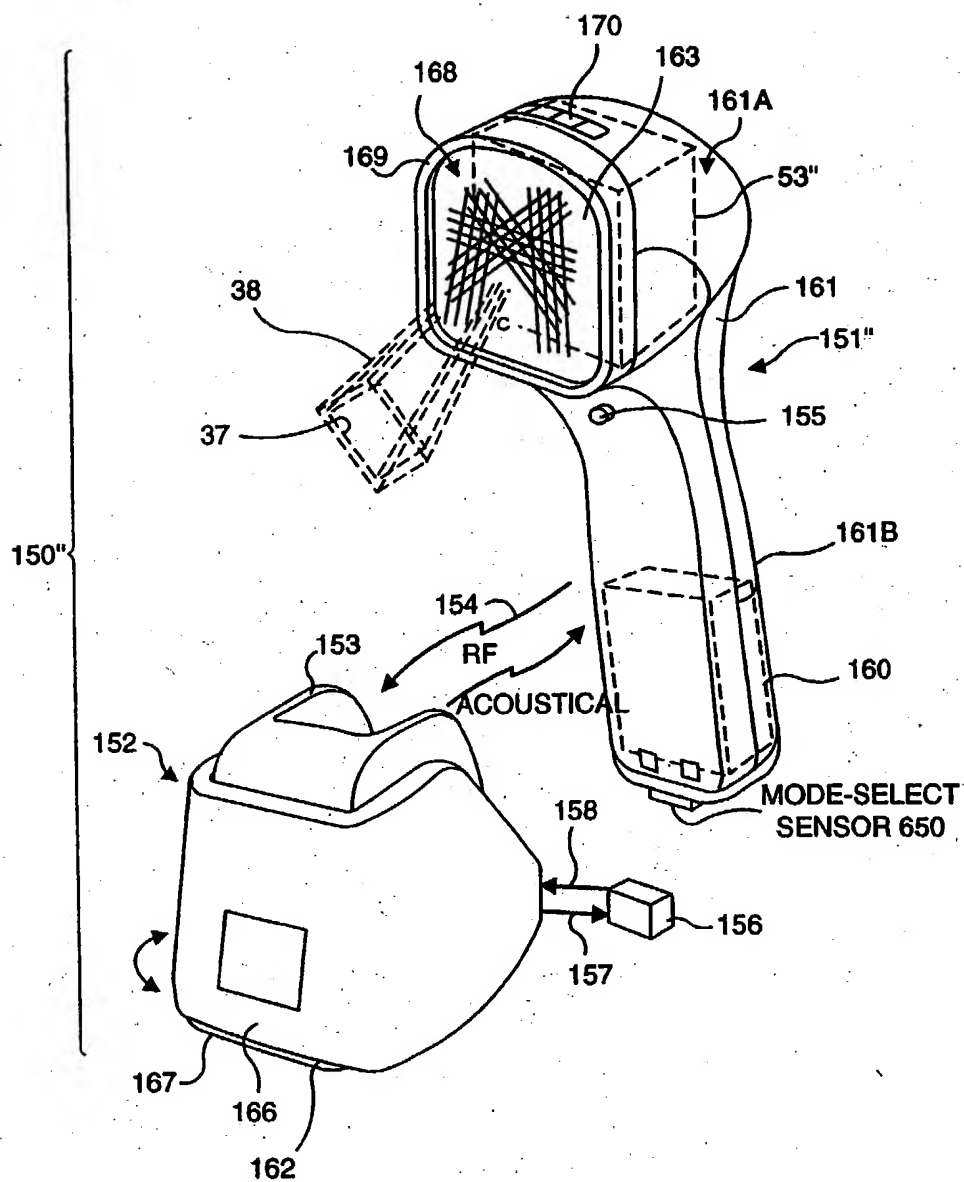


FIG. 7C

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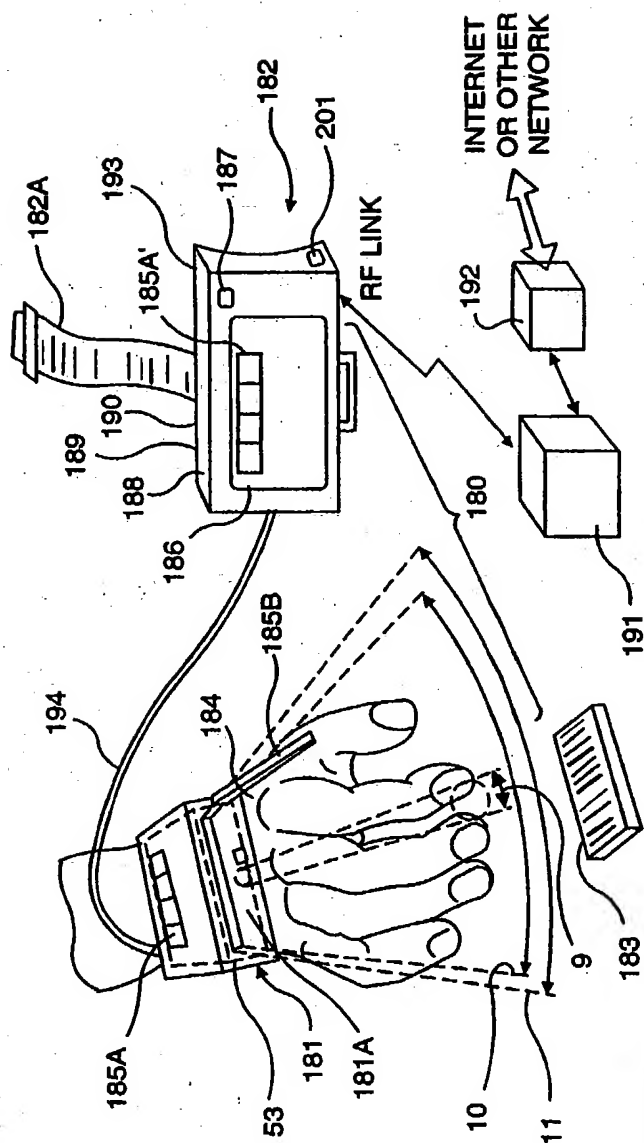


FIG. 8A

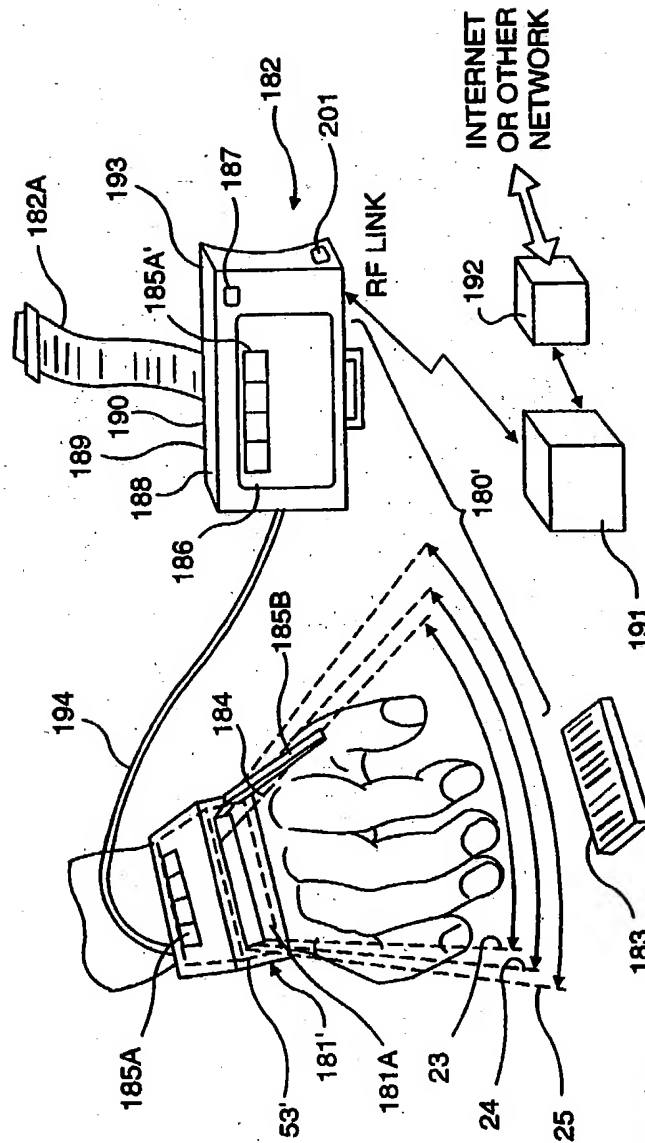


FIG. 8B

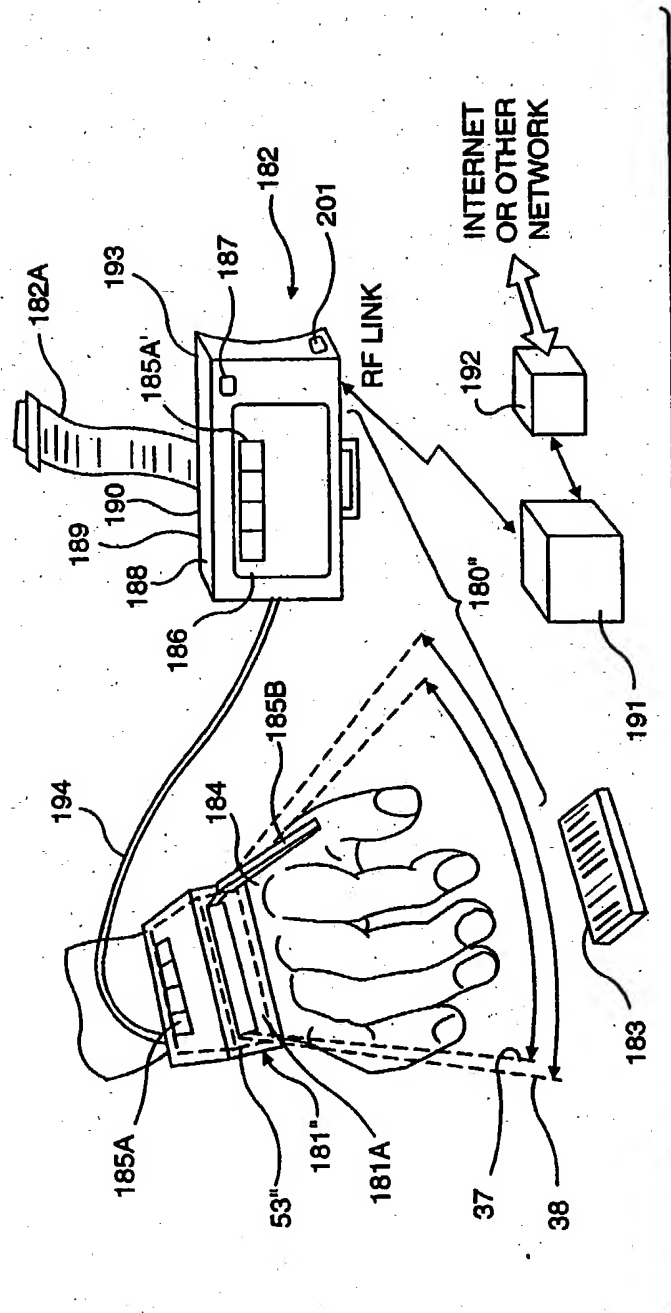


FIG. 8C

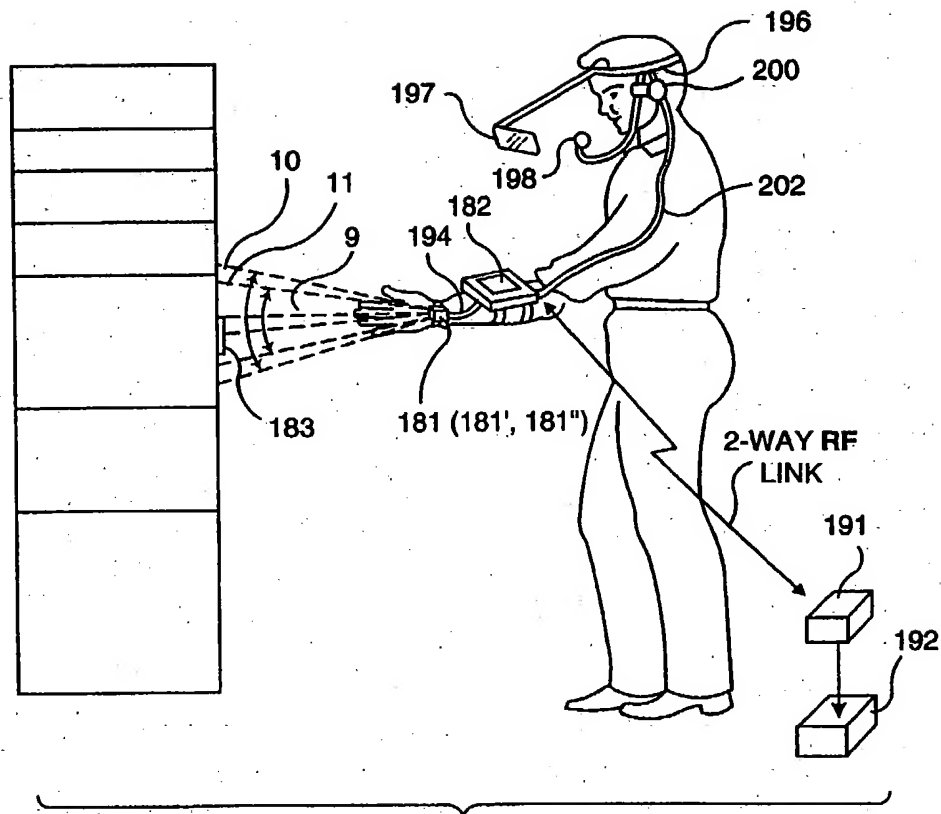
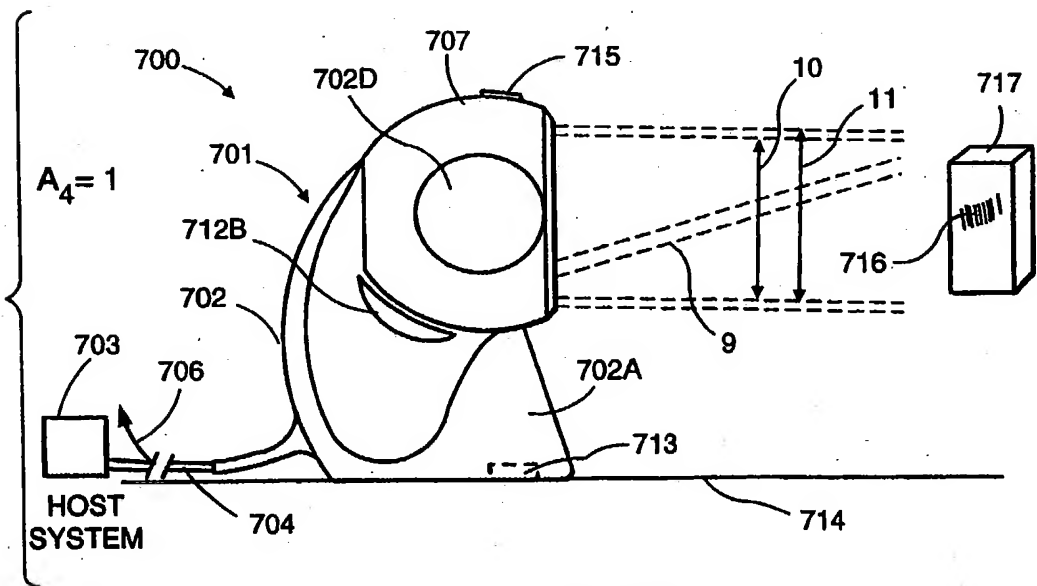
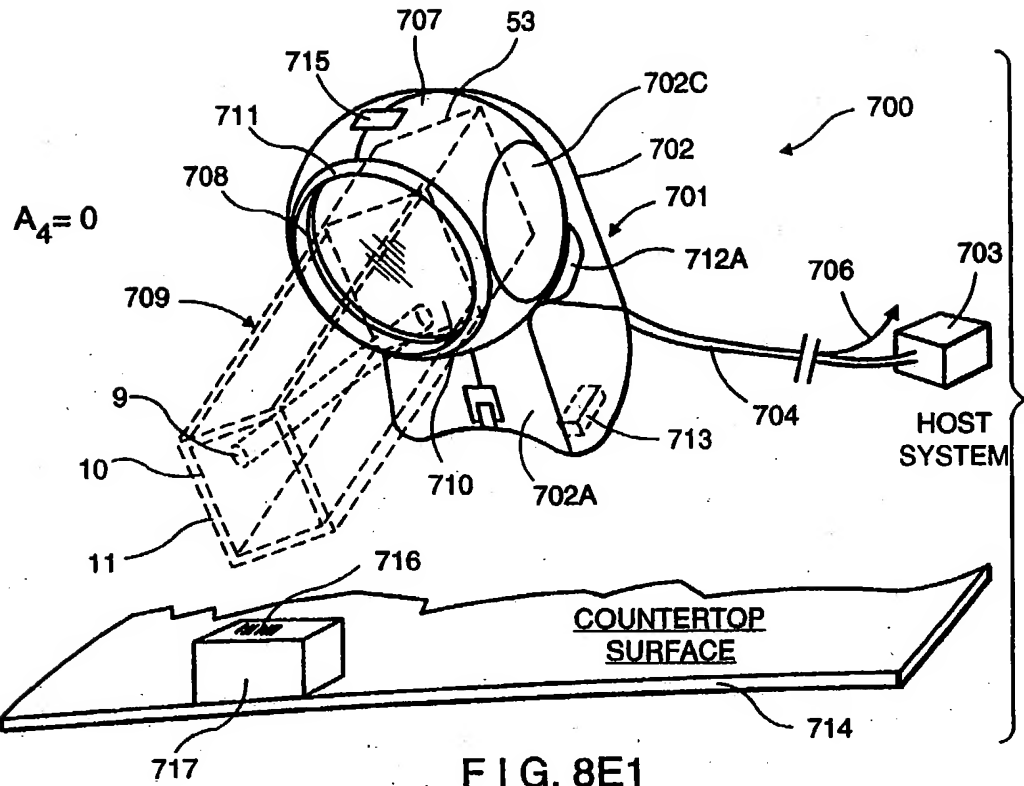


FIG. 8D

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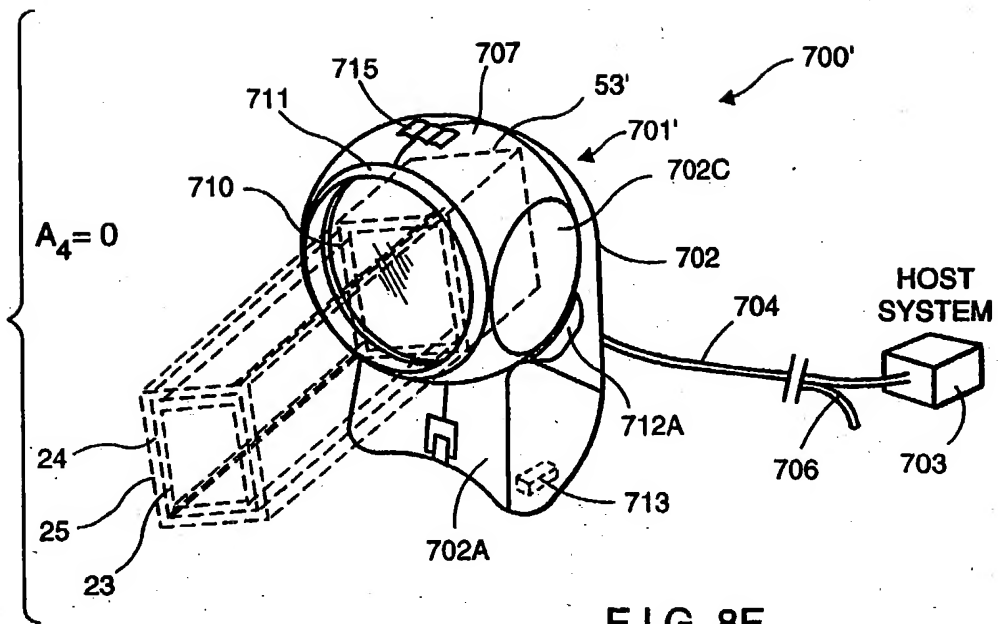


FIG. 8F

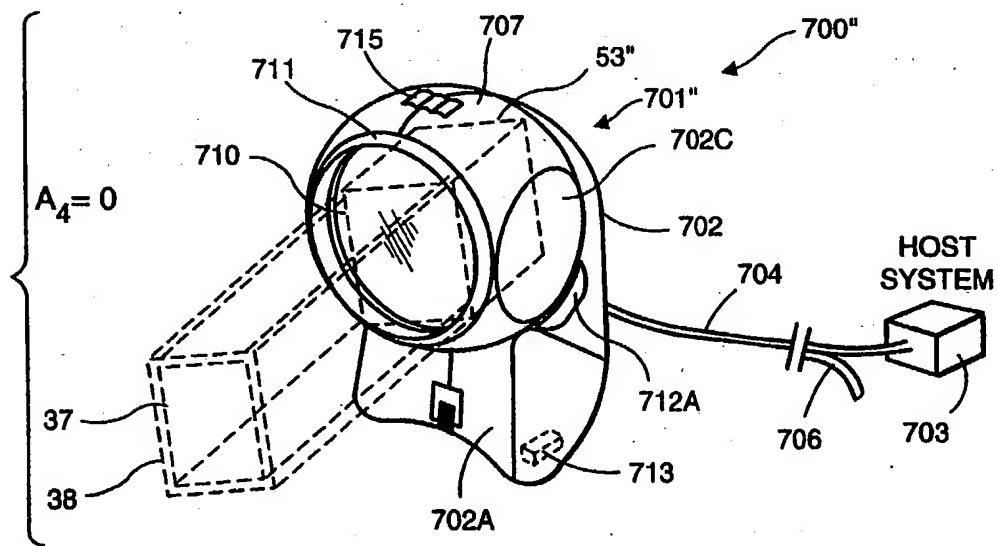


FIG. 8G

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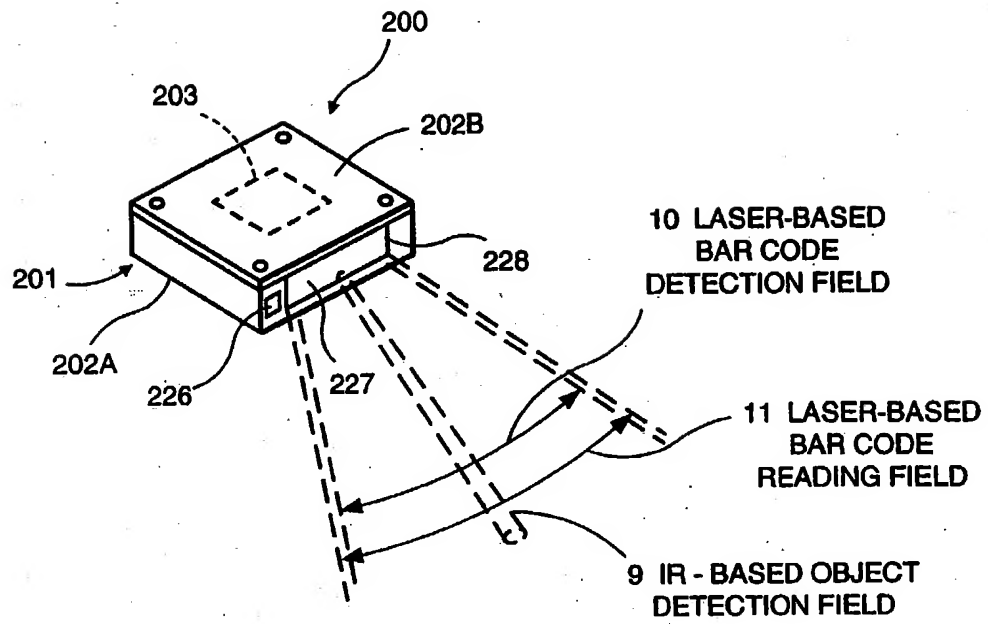


FIG. 9A

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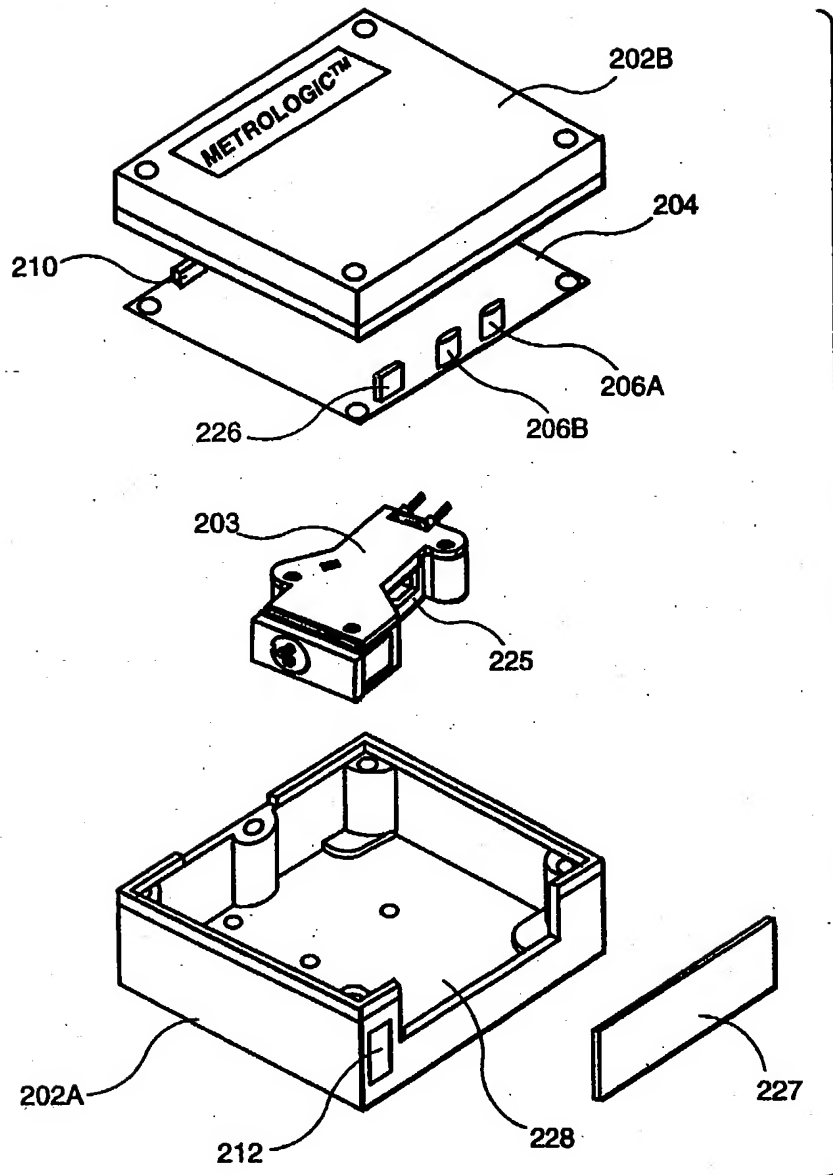
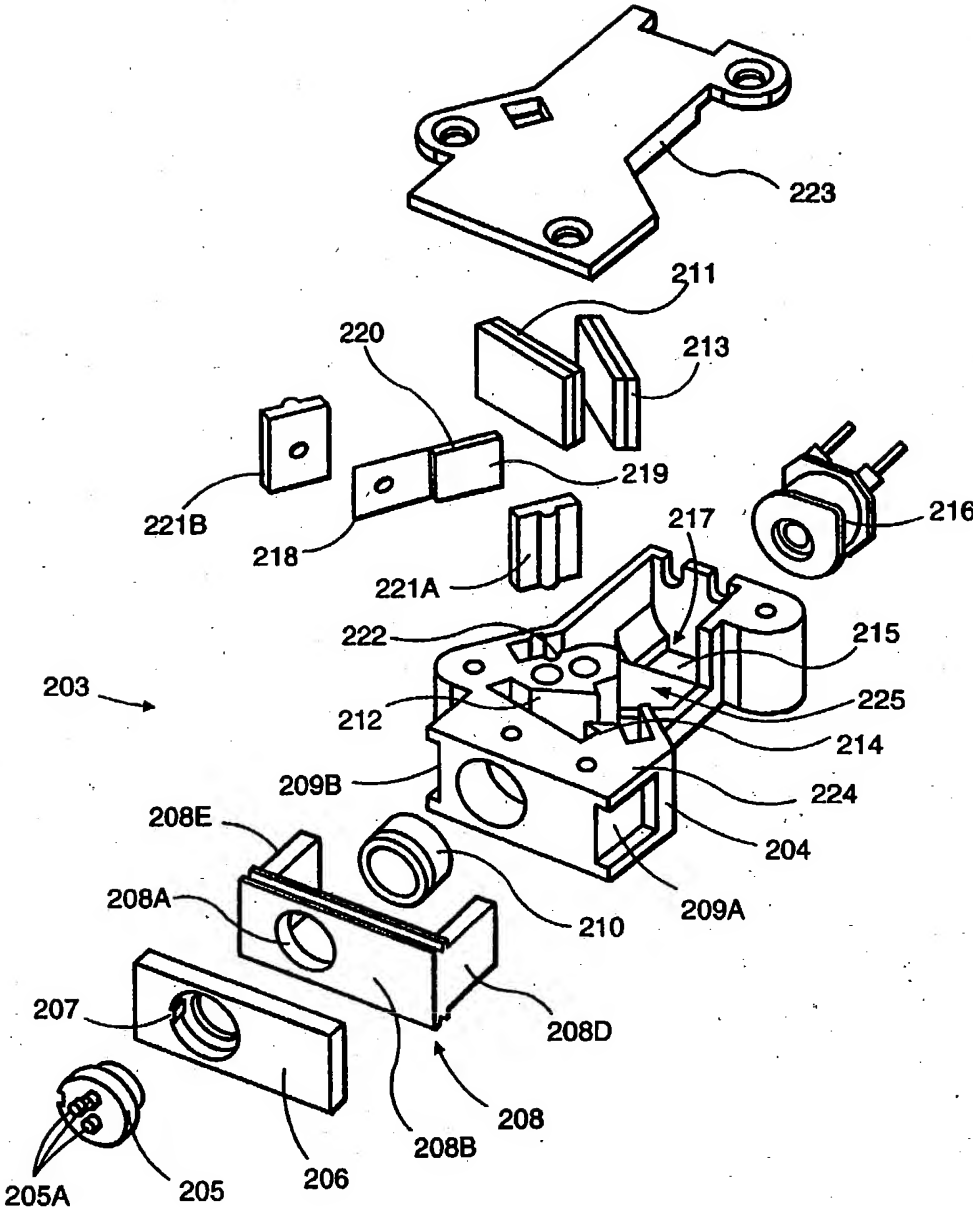


FIG. 9B

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**FIG. 9C**

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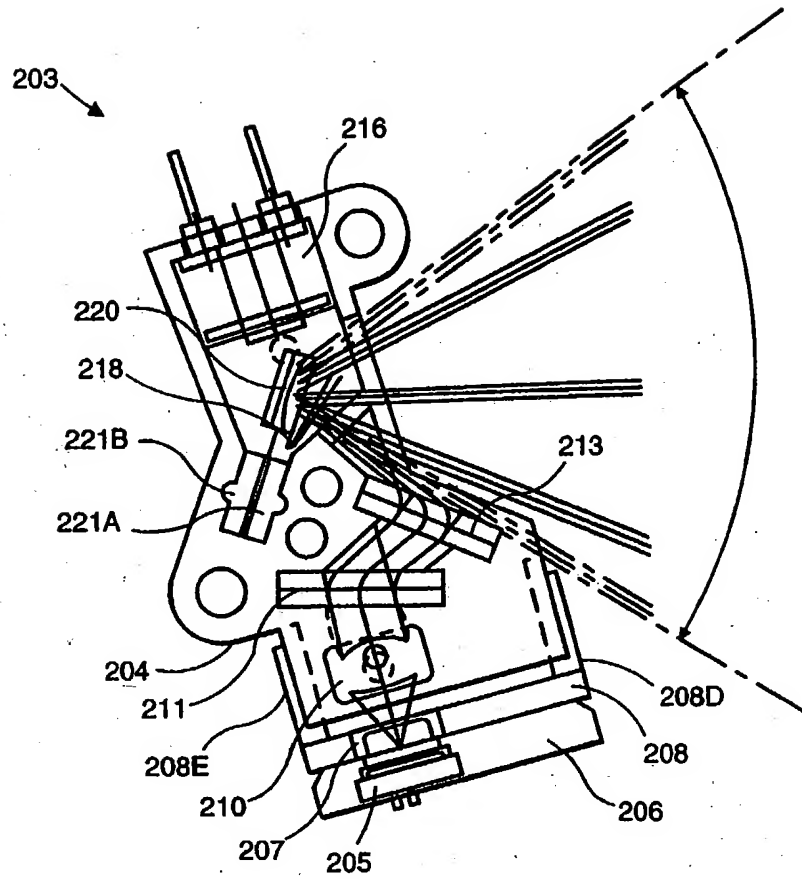


FIG. 9D

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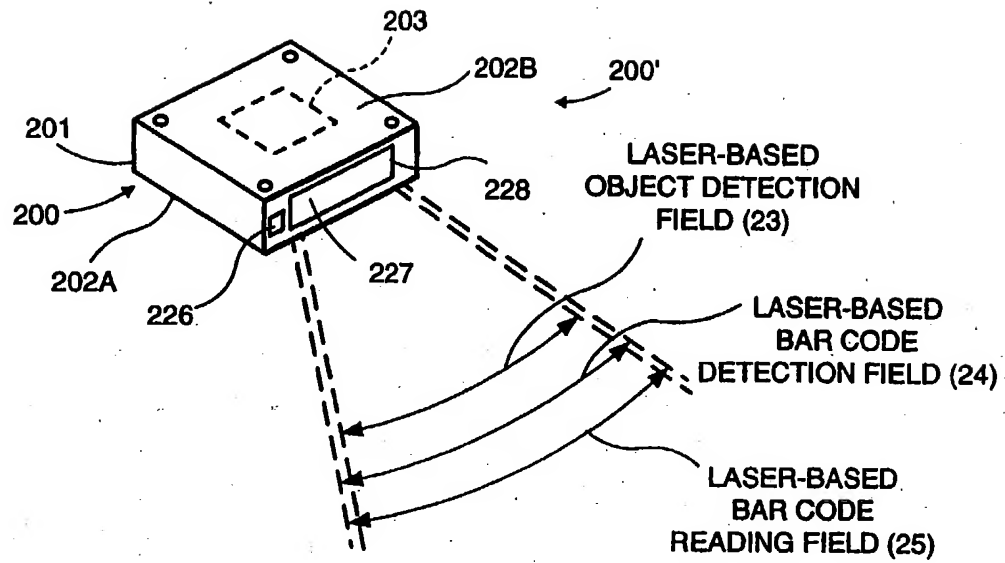


FIG. 9E

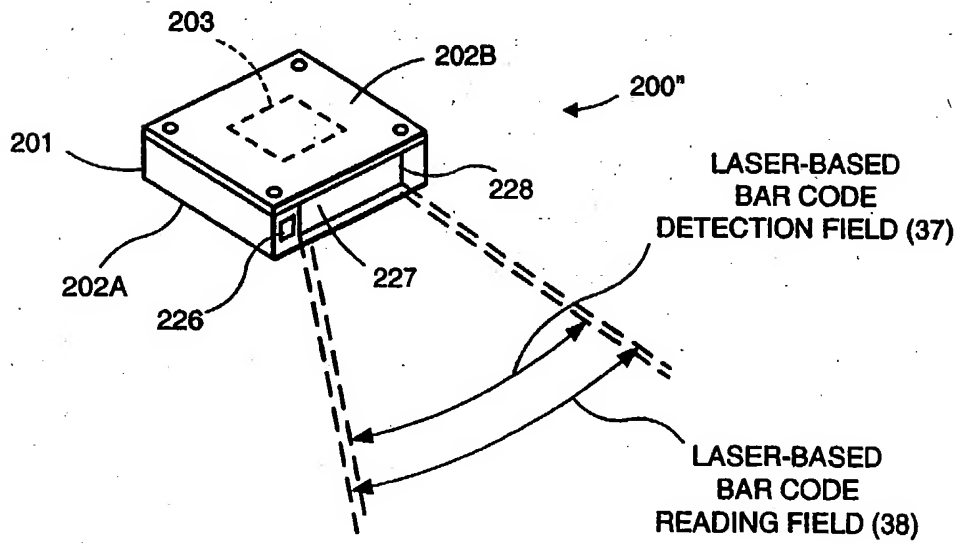


FIG. 9F

FIG. 10A

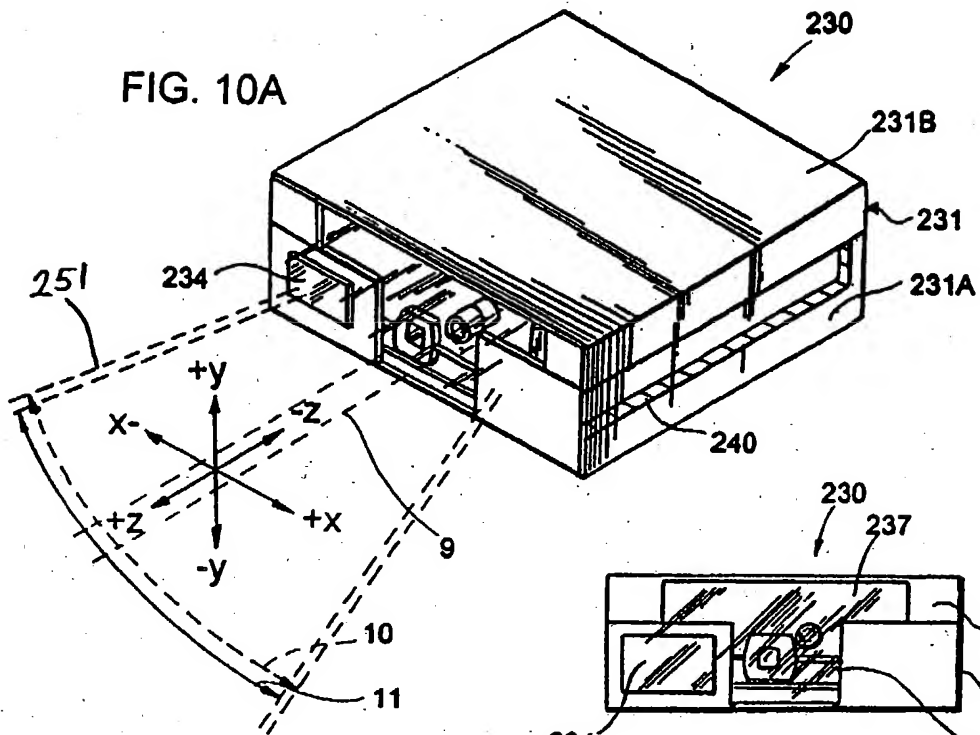


FIG. 10B

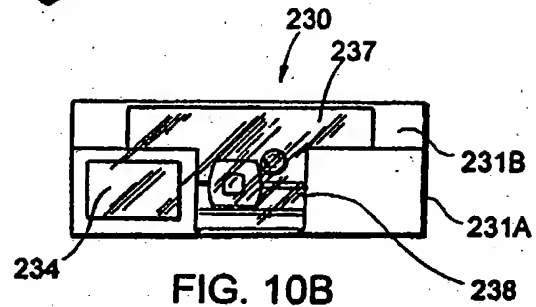


FIG. 10C

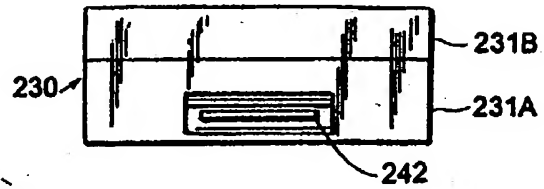
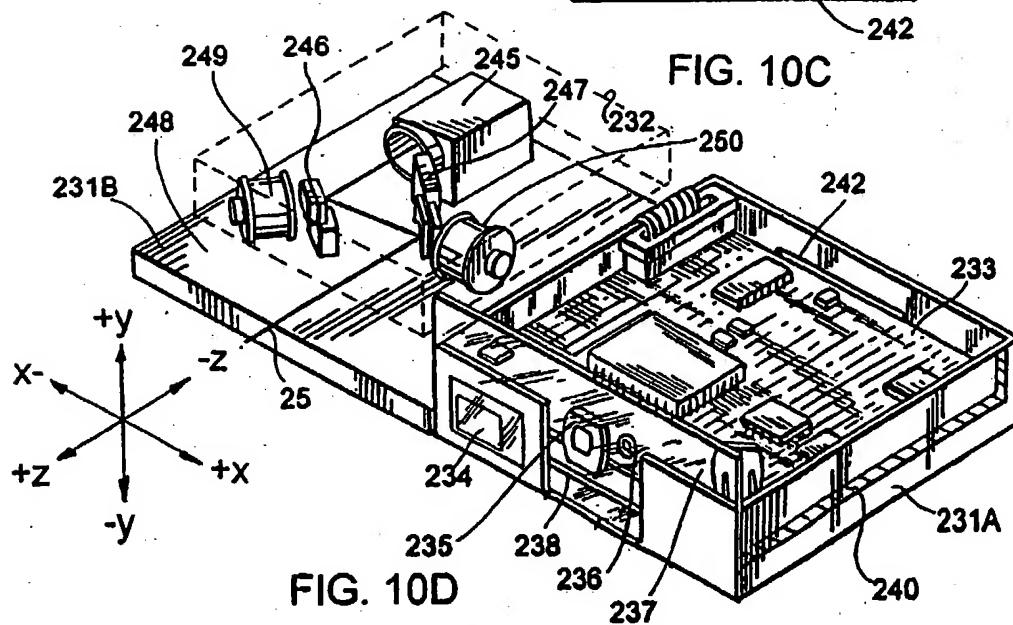


FIG. 10D



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FIG. 10E

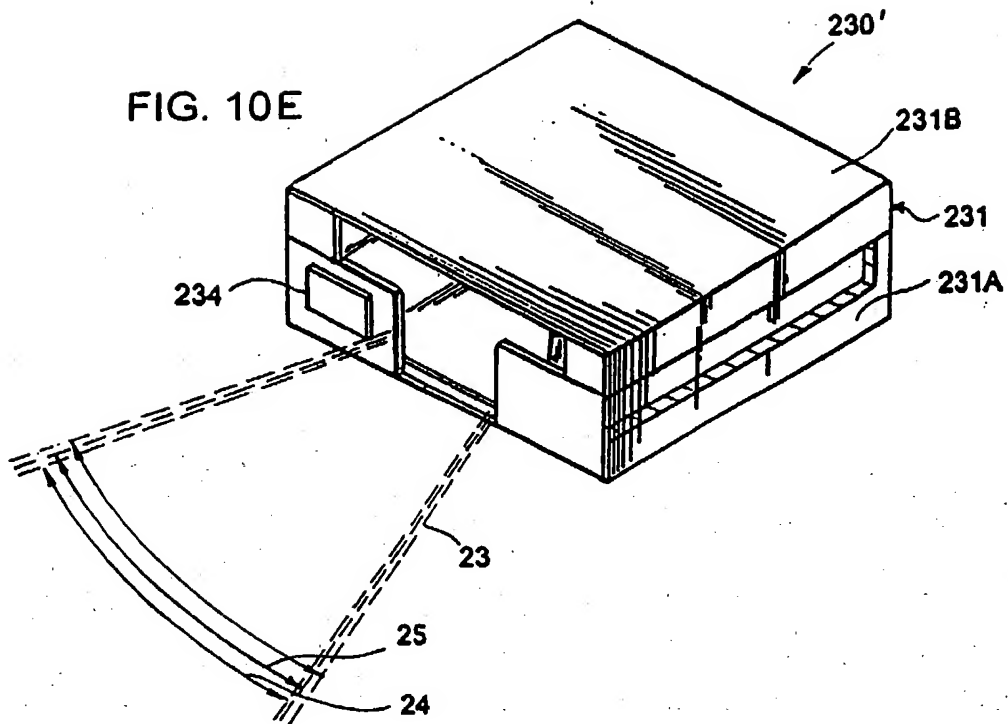
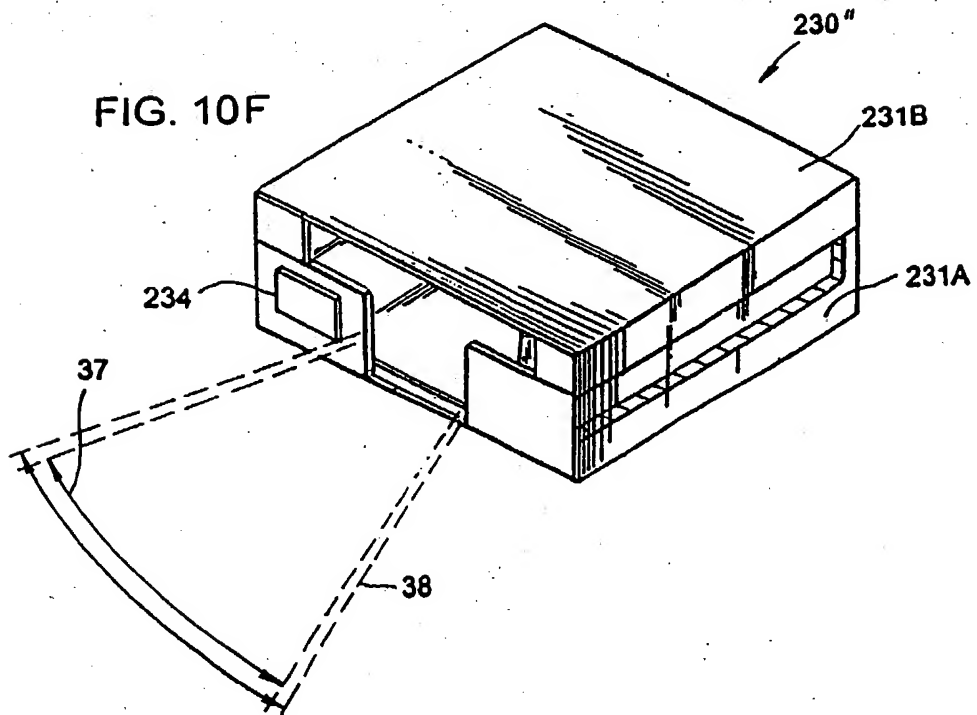


FIG. 10F





[illegible]

FIG. 11C

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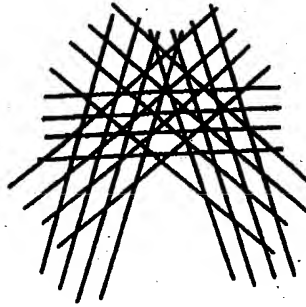


FIG. 12A

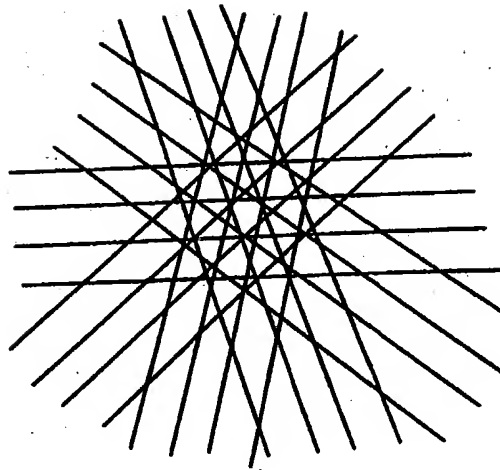


FIG. 12B

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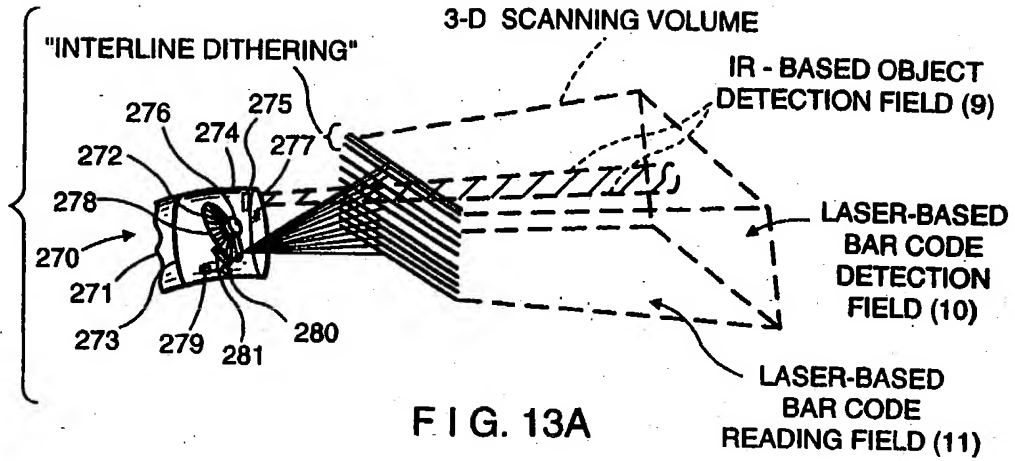


FIG. 13A

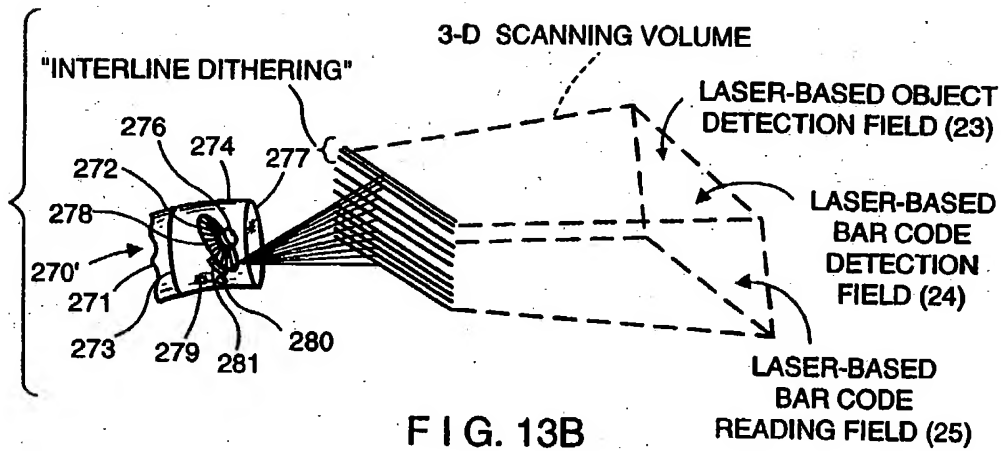


FIG. 13B

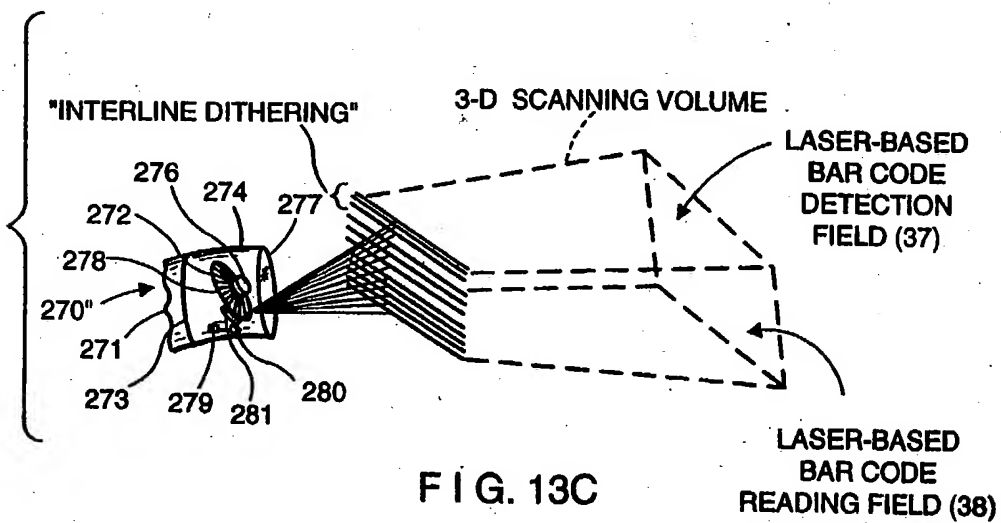
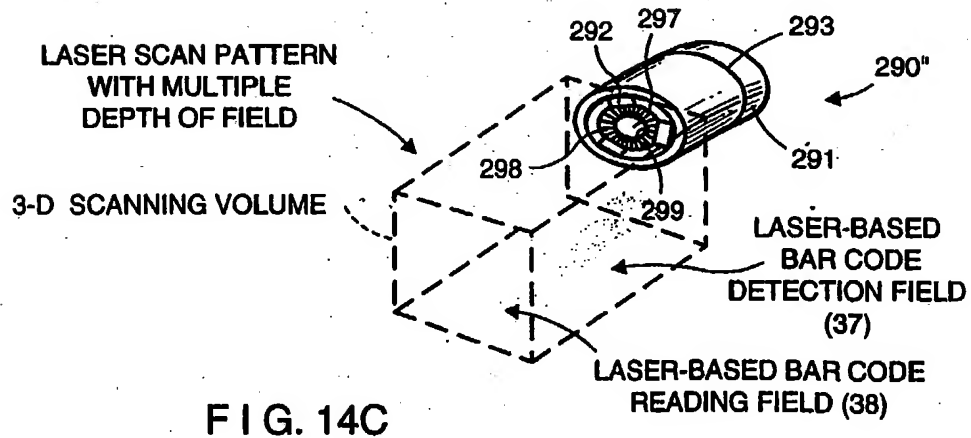
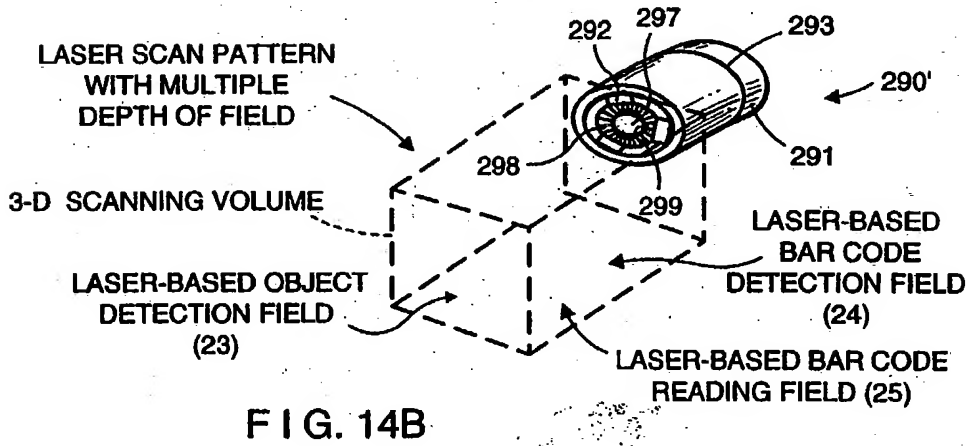
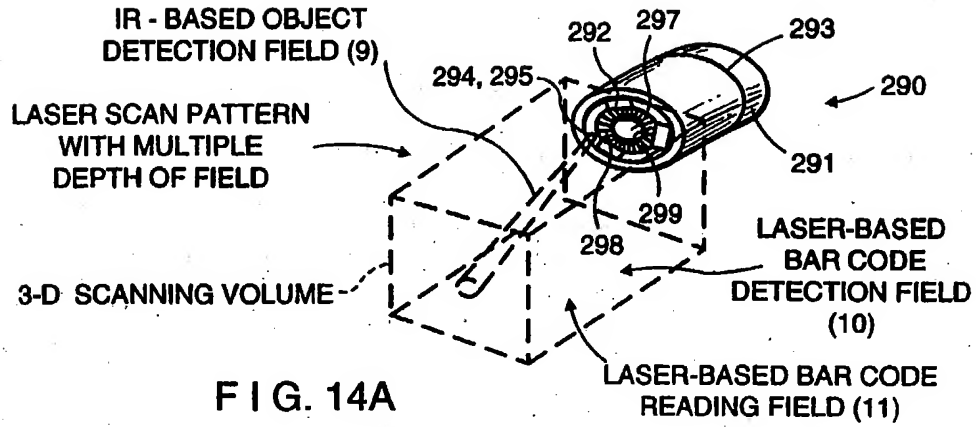


FIG. 13C



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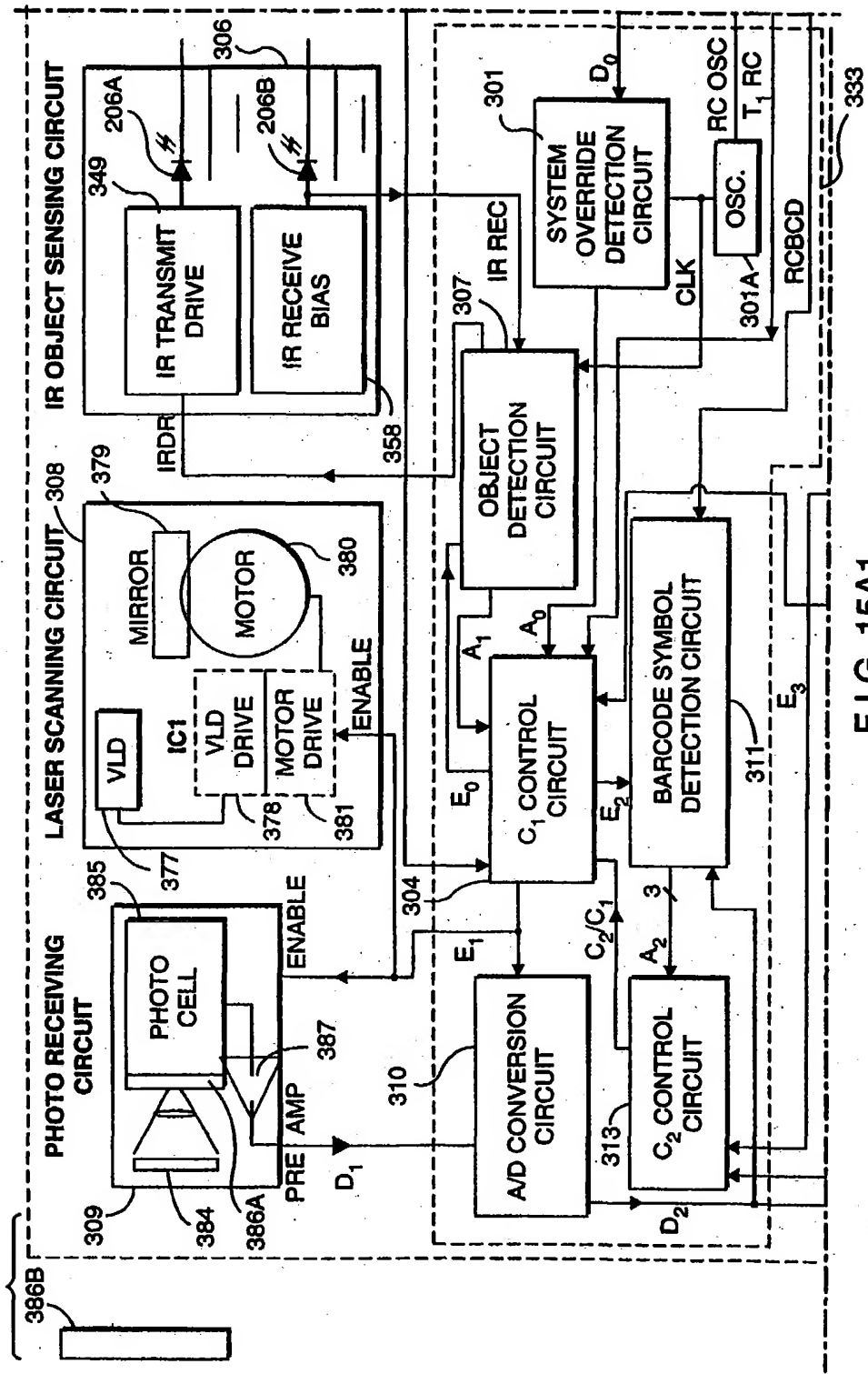


FIG. 15A1

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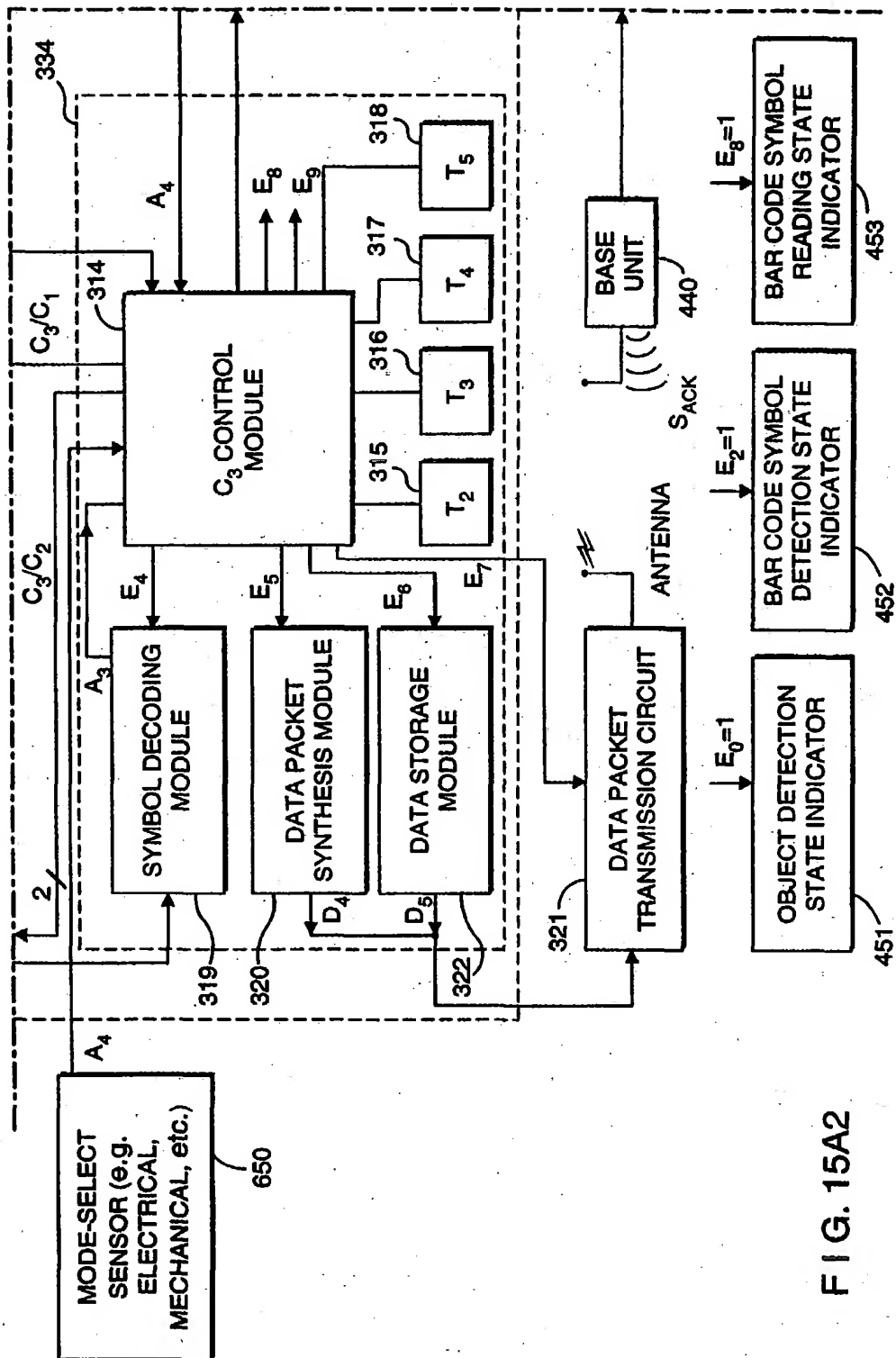


FIG. 15A2

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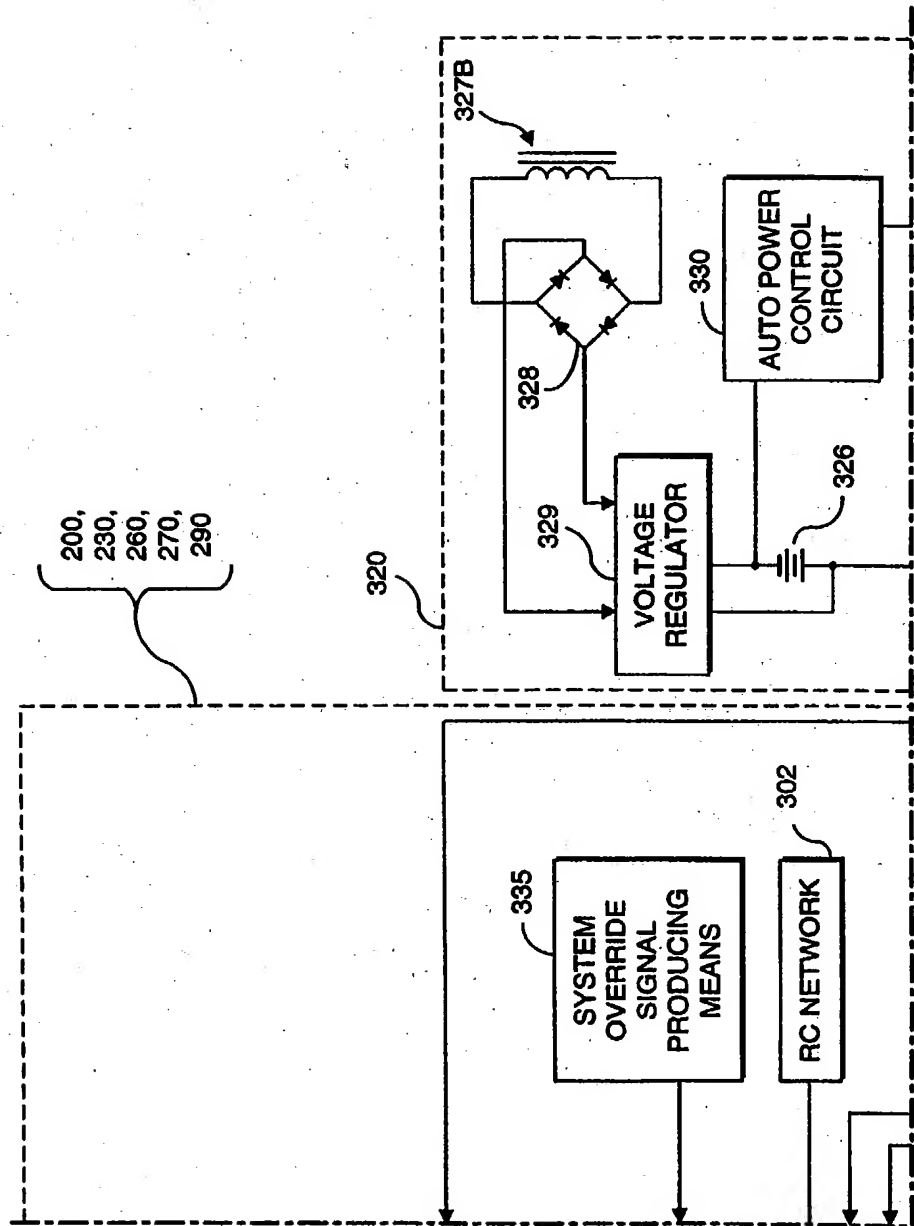


FIG. 15A3

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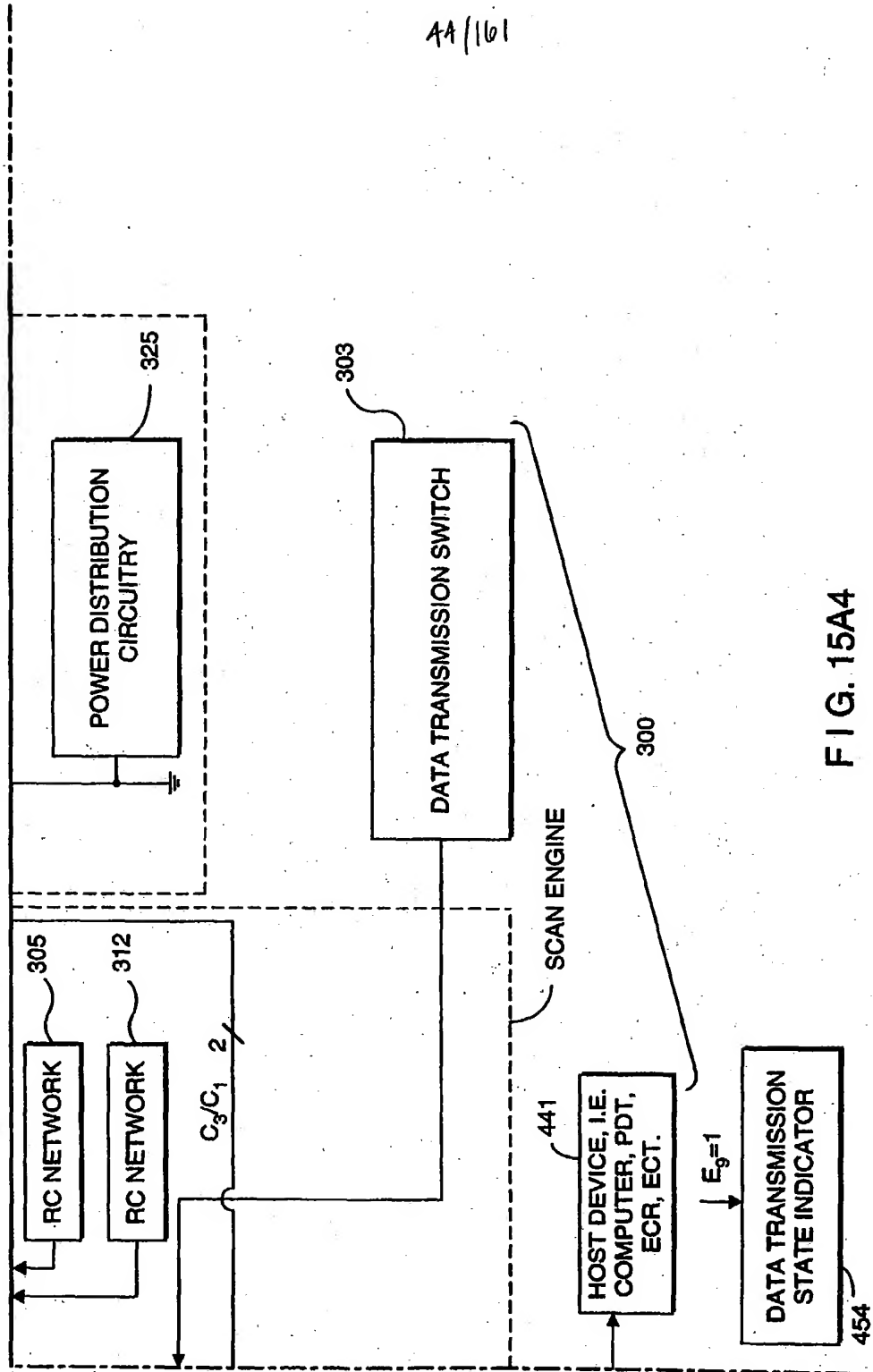


FIG. 15A4



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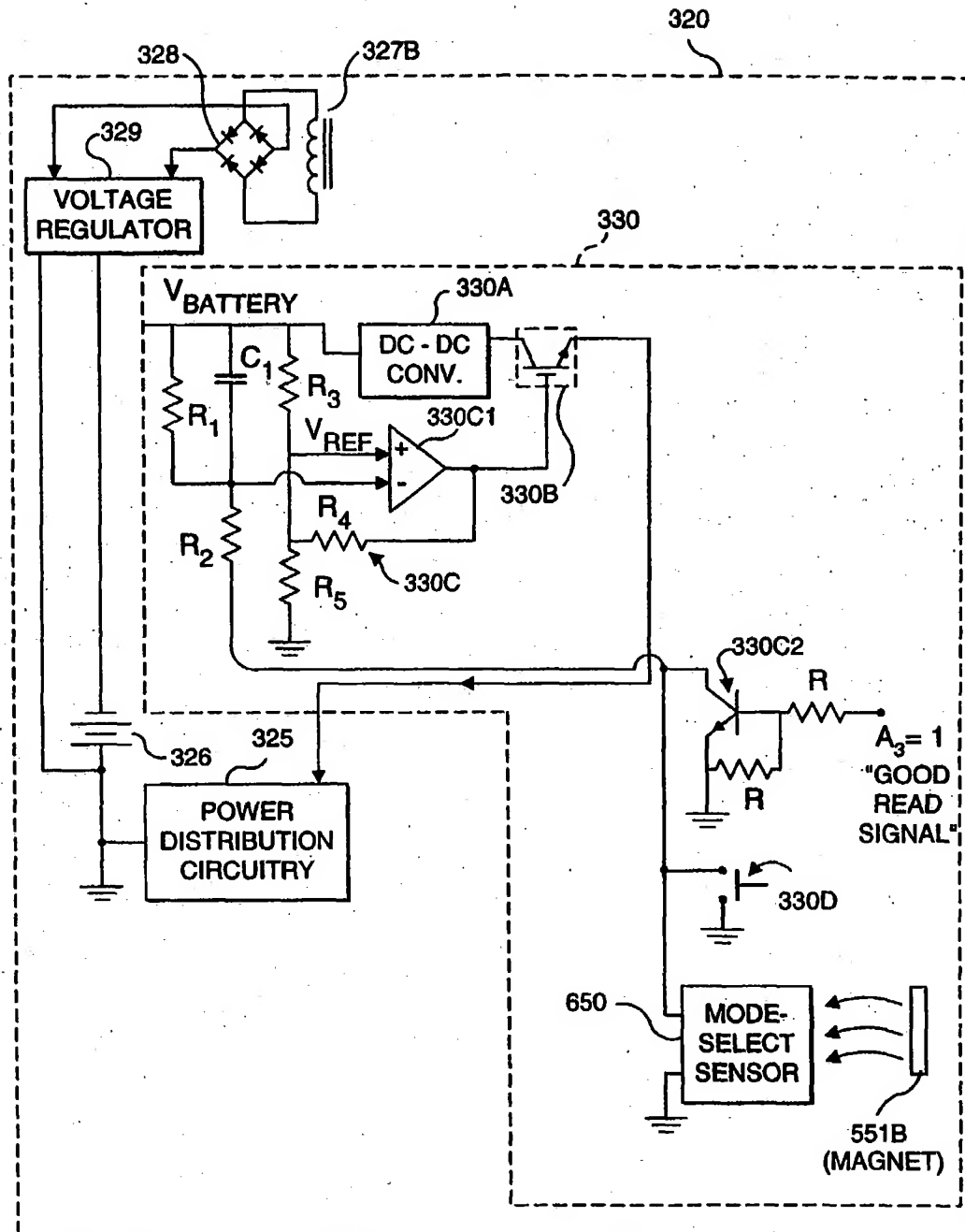


FIG. 15B1

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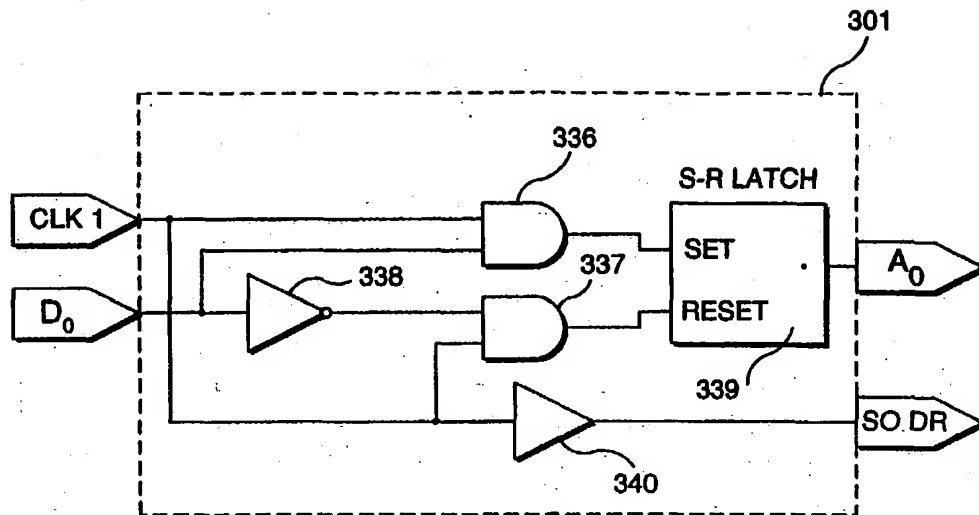


FIG. 15B2

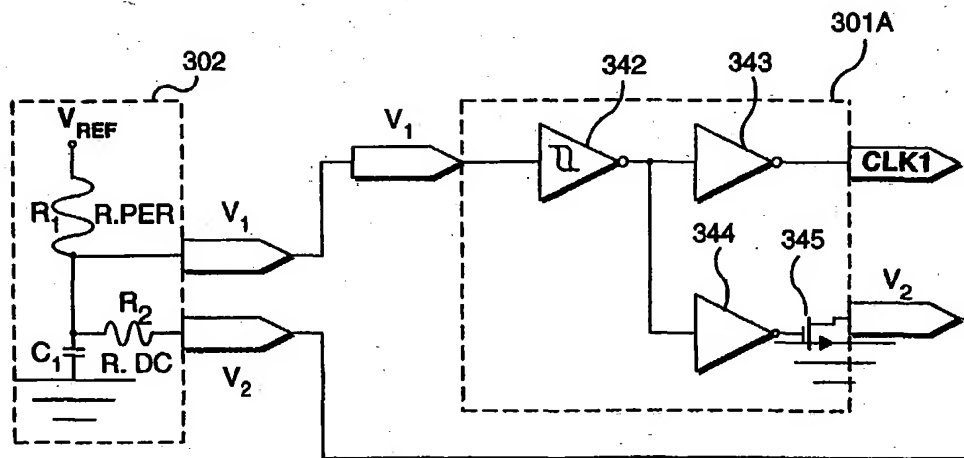


FIG. 15C

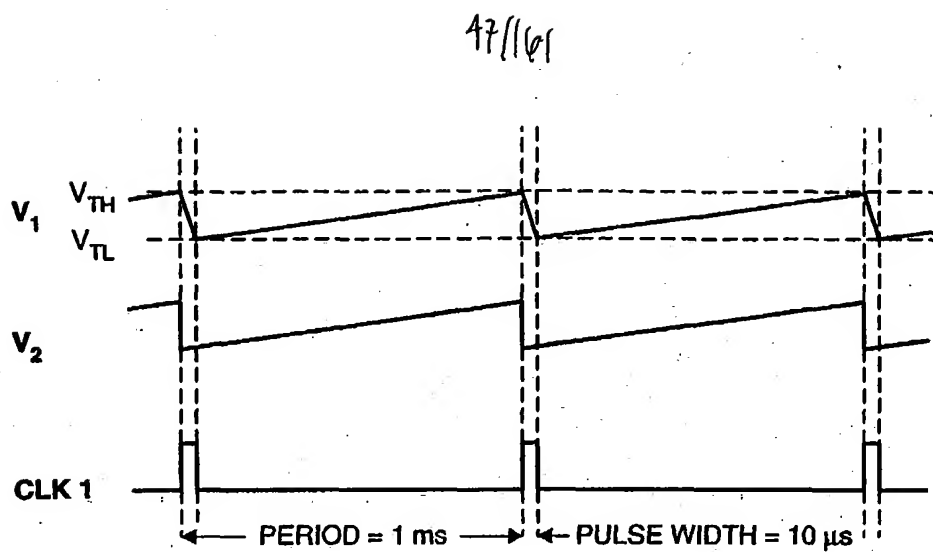


FIG. 15D

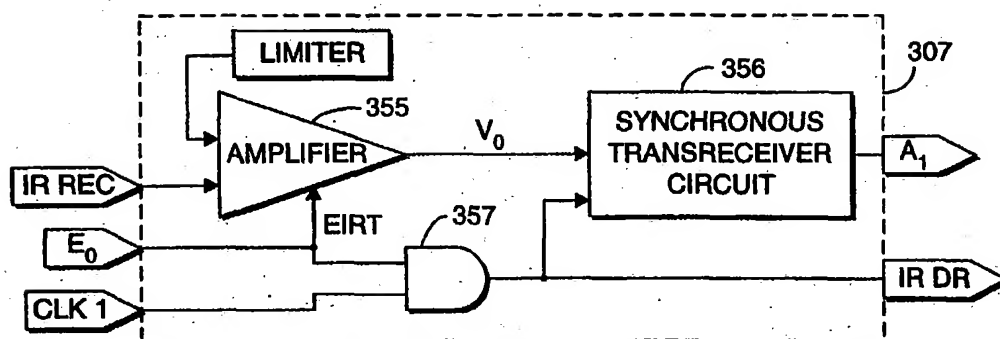


FIG. 15E

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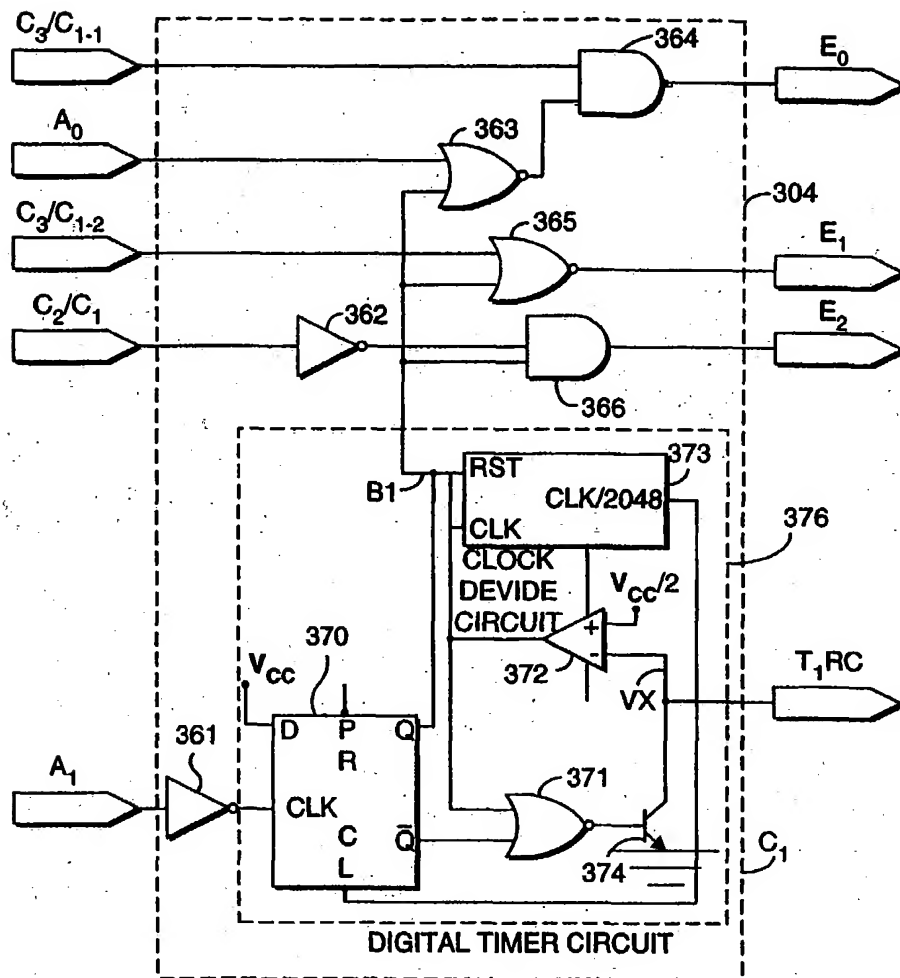


FIG. 15F

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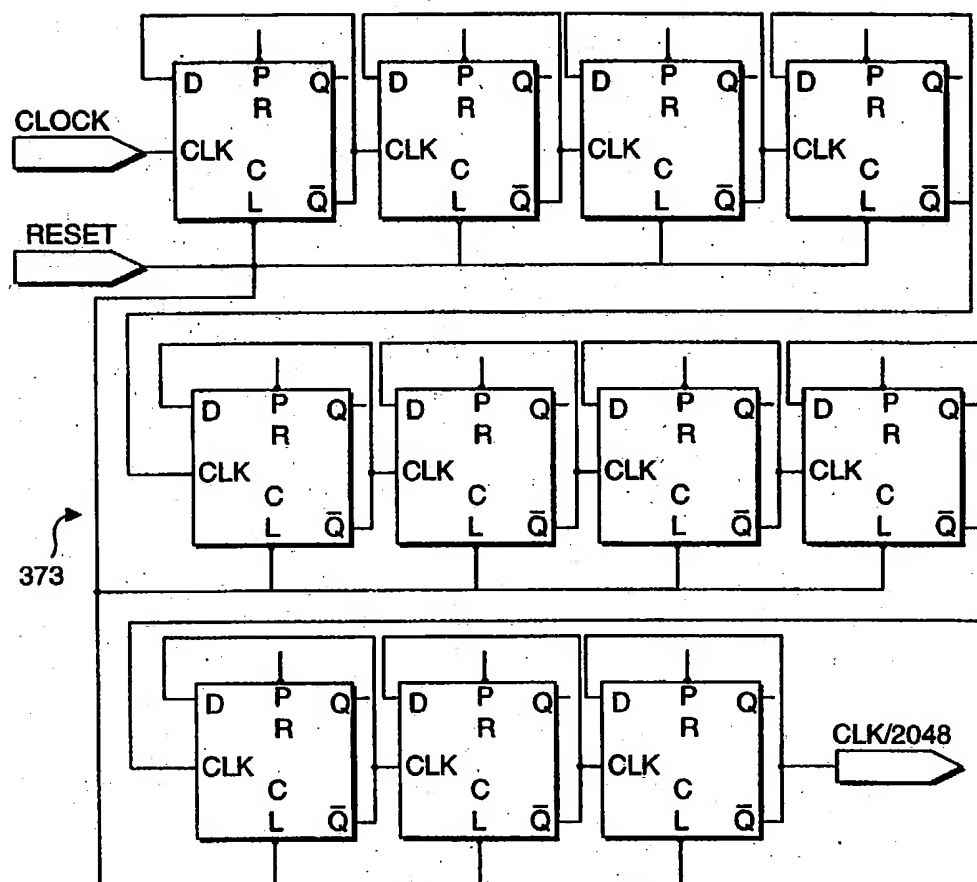


FIG. 15G

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$$\left. \begin{aligned} E_0 &= (B_1 + A_0) (C_3 / C_{1-1}) \\ E_1 &= (C_3 / C_{1-2}) + B_1 \\ E_2 &= (C_2 / C_1) (T_1) \end{aligned} \right\}$$

FIG. 15H

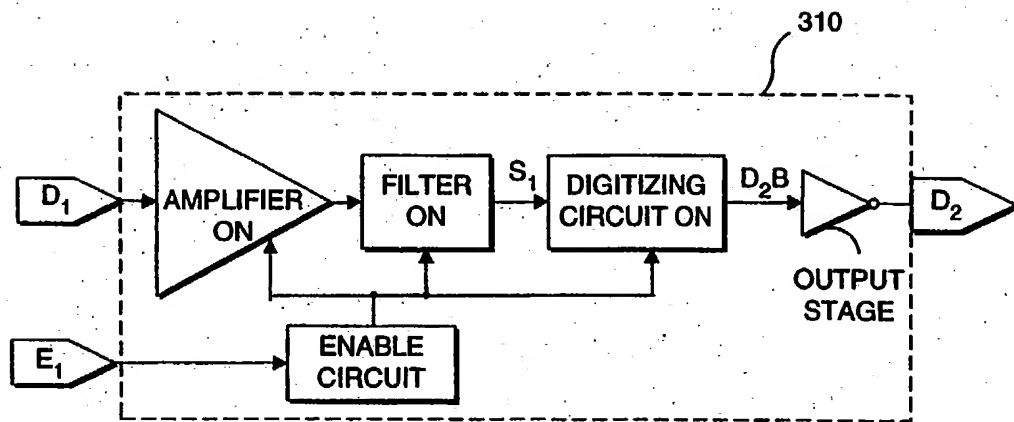


FIG. 15I

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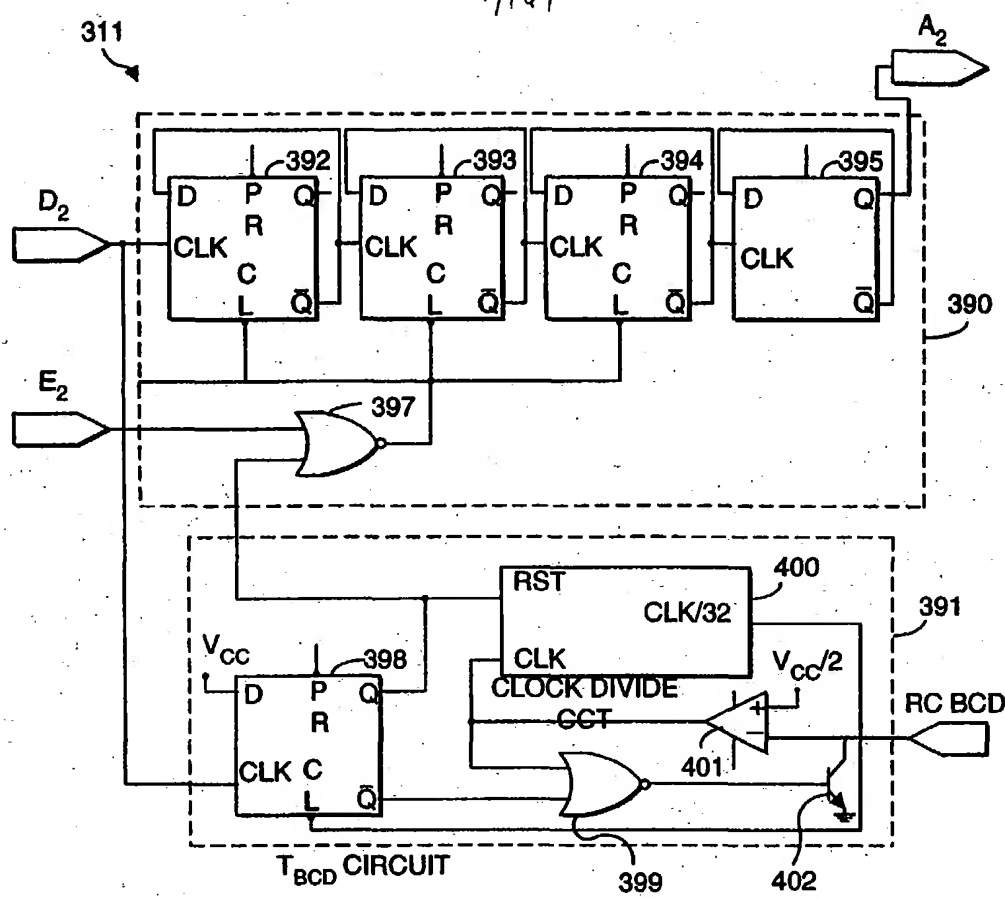


FIG. 15J

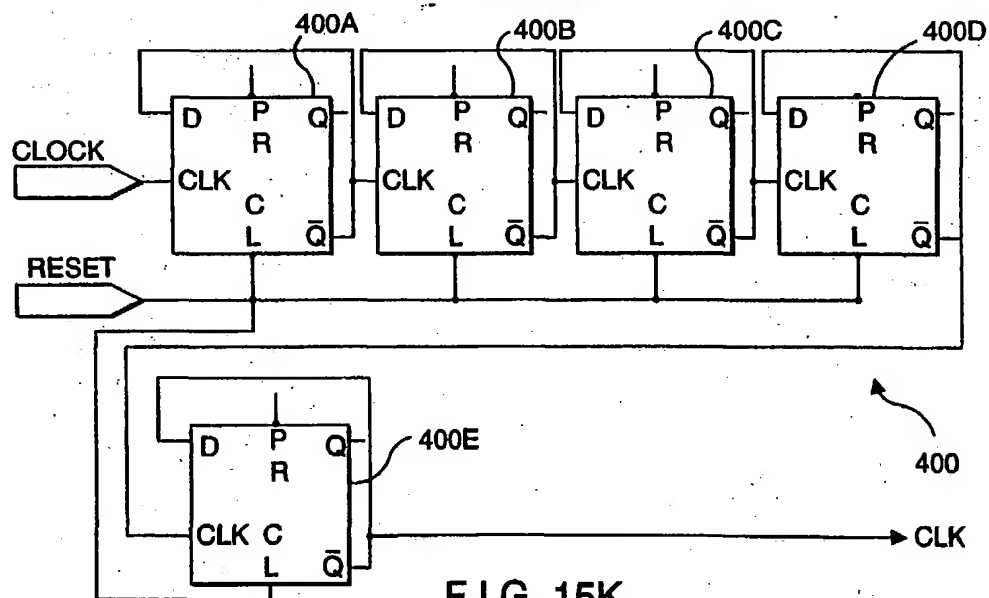


FIG. 15K

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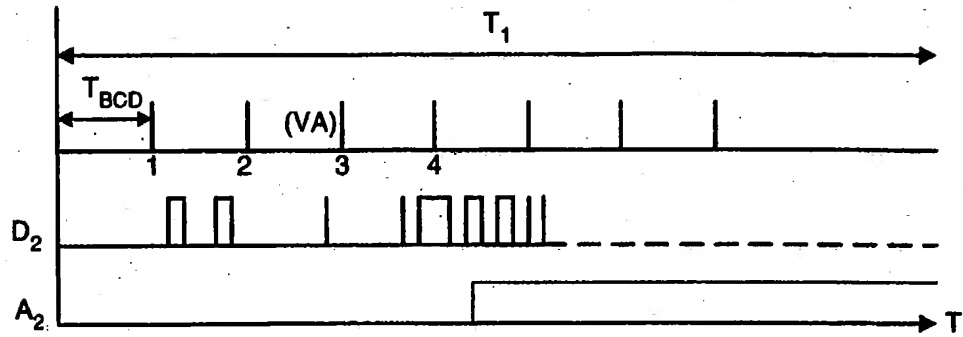


FIG. 15L

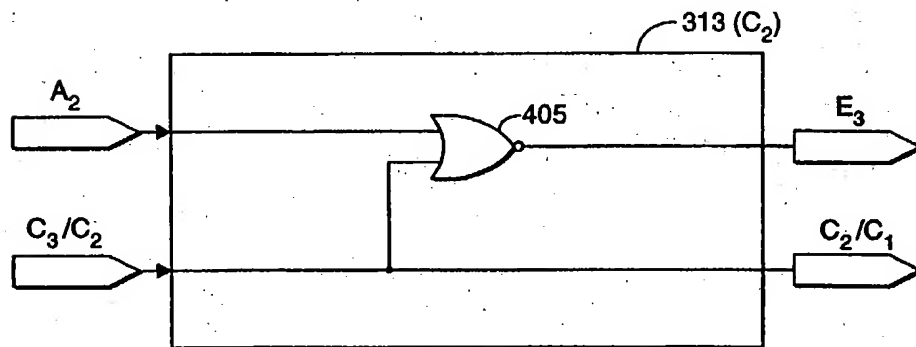


FIG. 15M

$C_3 / C_2$	$A_2$	$E_3$	$C_2 / C_1$
0	0	0	0
0	1	1	0
1	X	1	1

X: DON'T CARE (I.E.  $C_3 / C_2$  OVERRIDES  $A_2$ )

FIG. 15N



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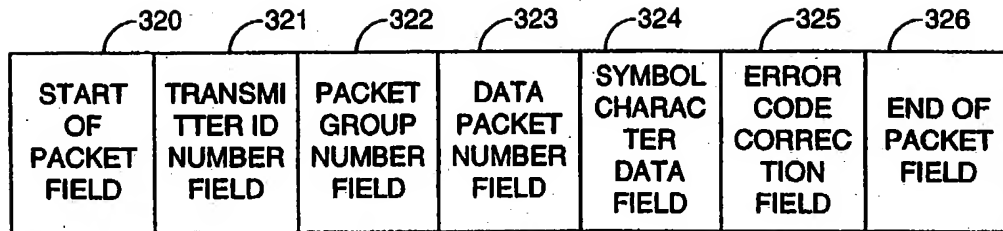


FIG. 150

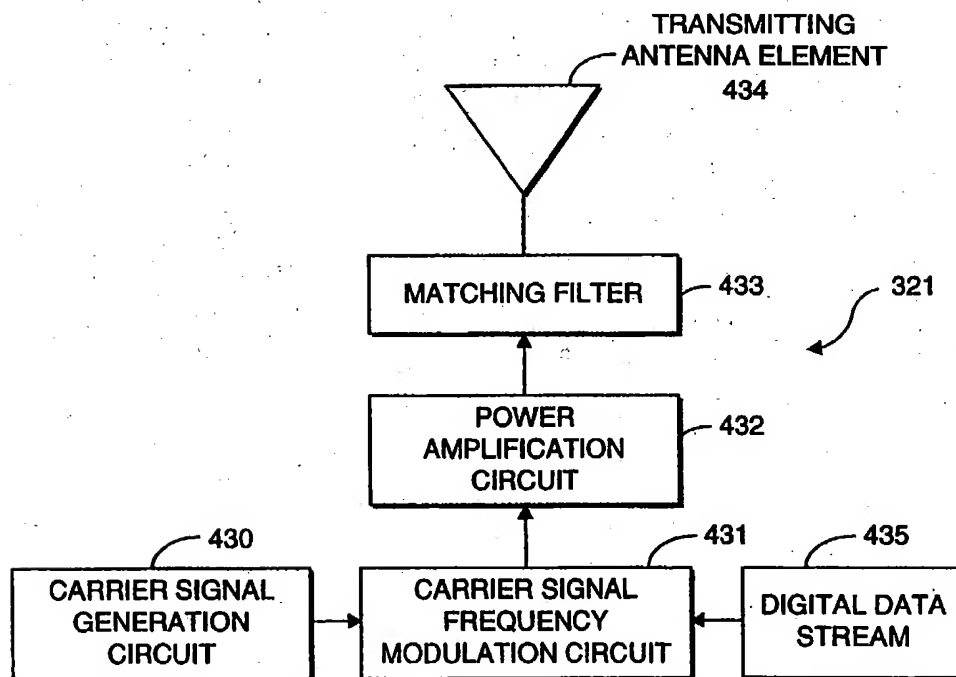


FIG. 16

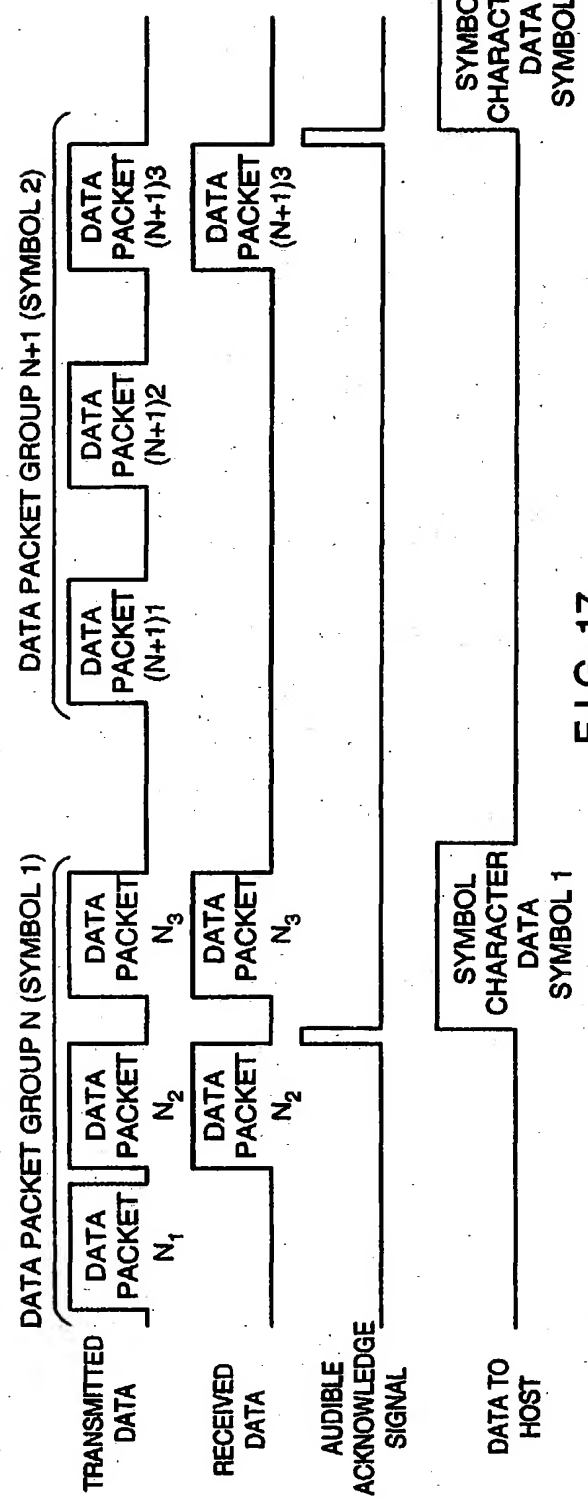
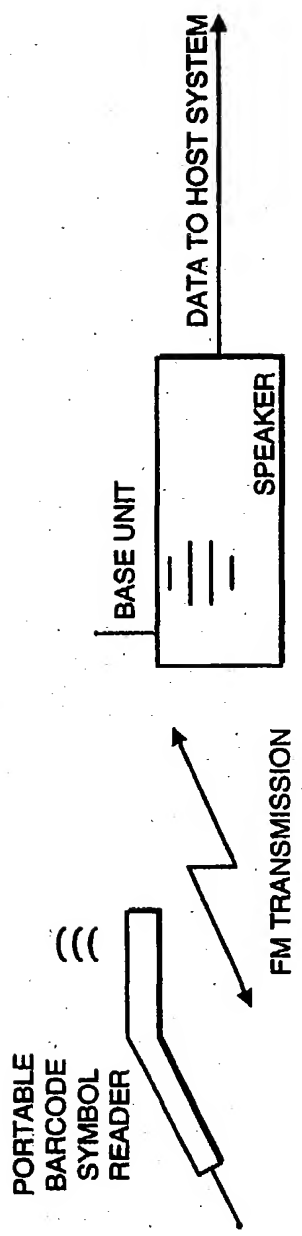


FIG. 17

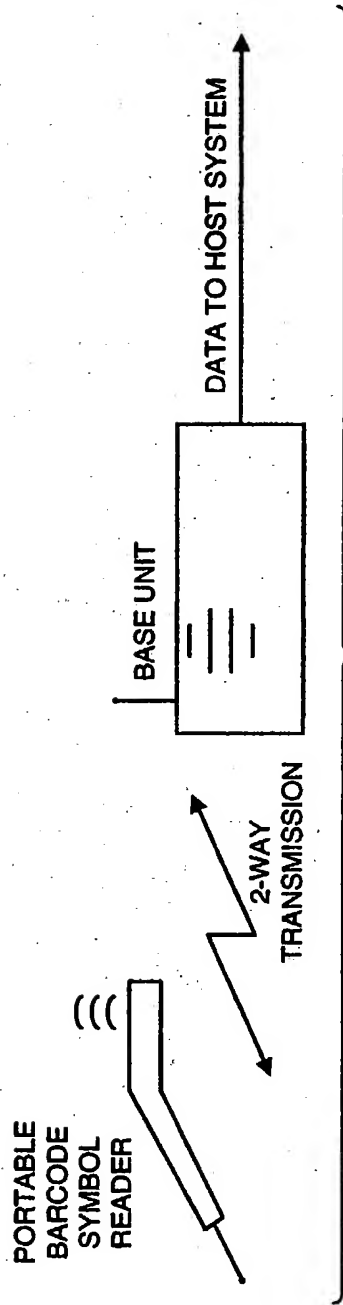


FIG. 18



FIG. 19

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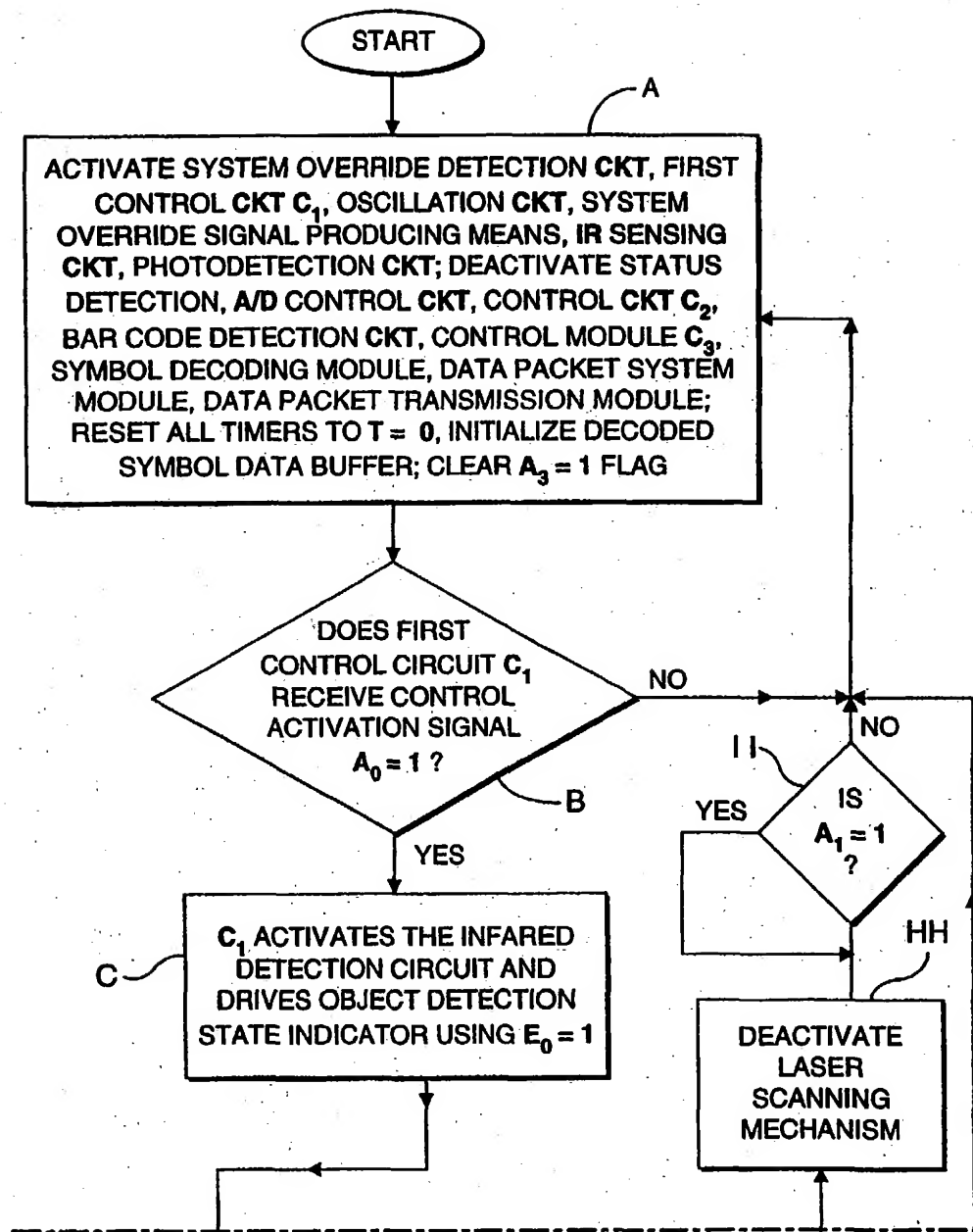


FIG. 20A1

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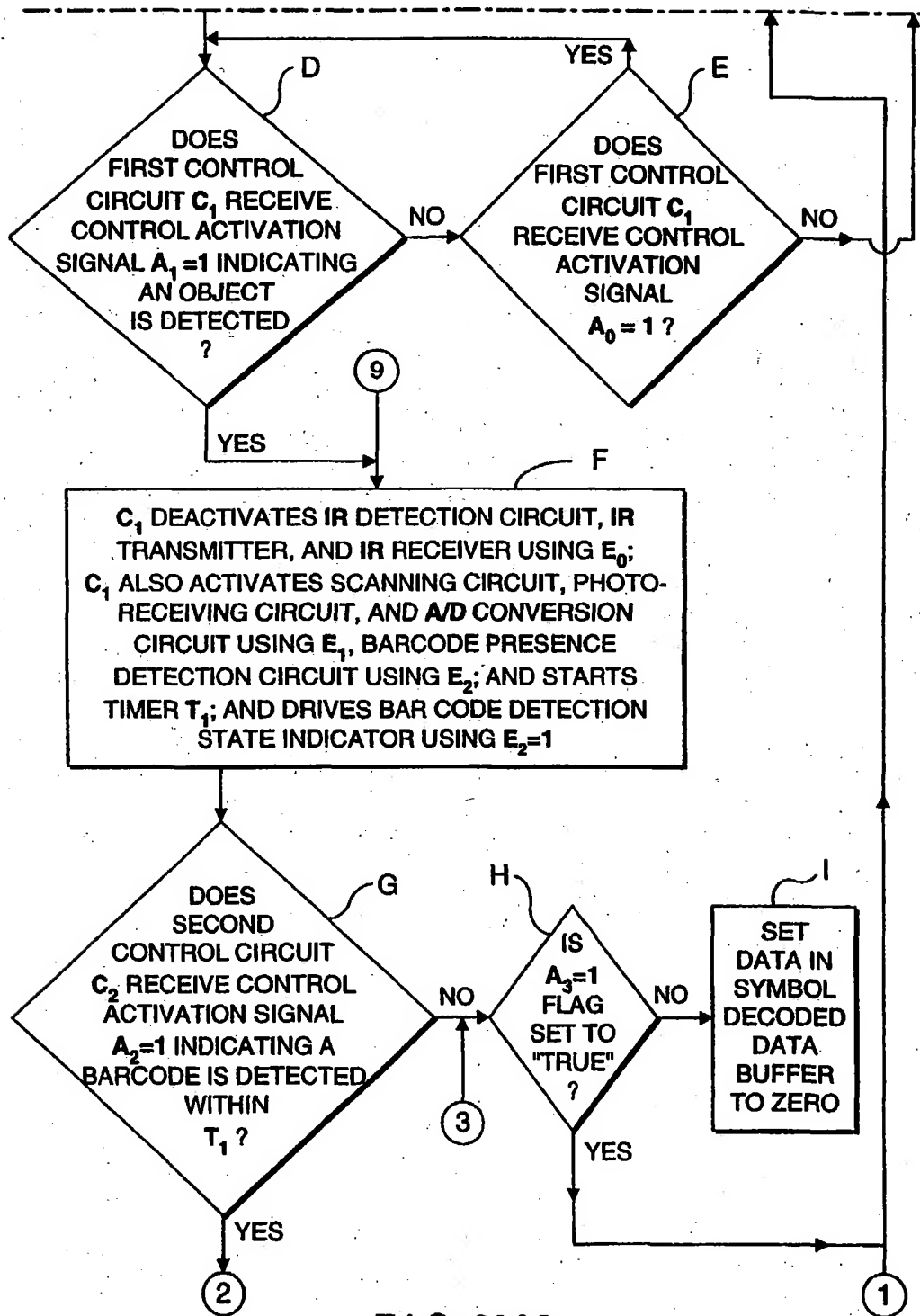
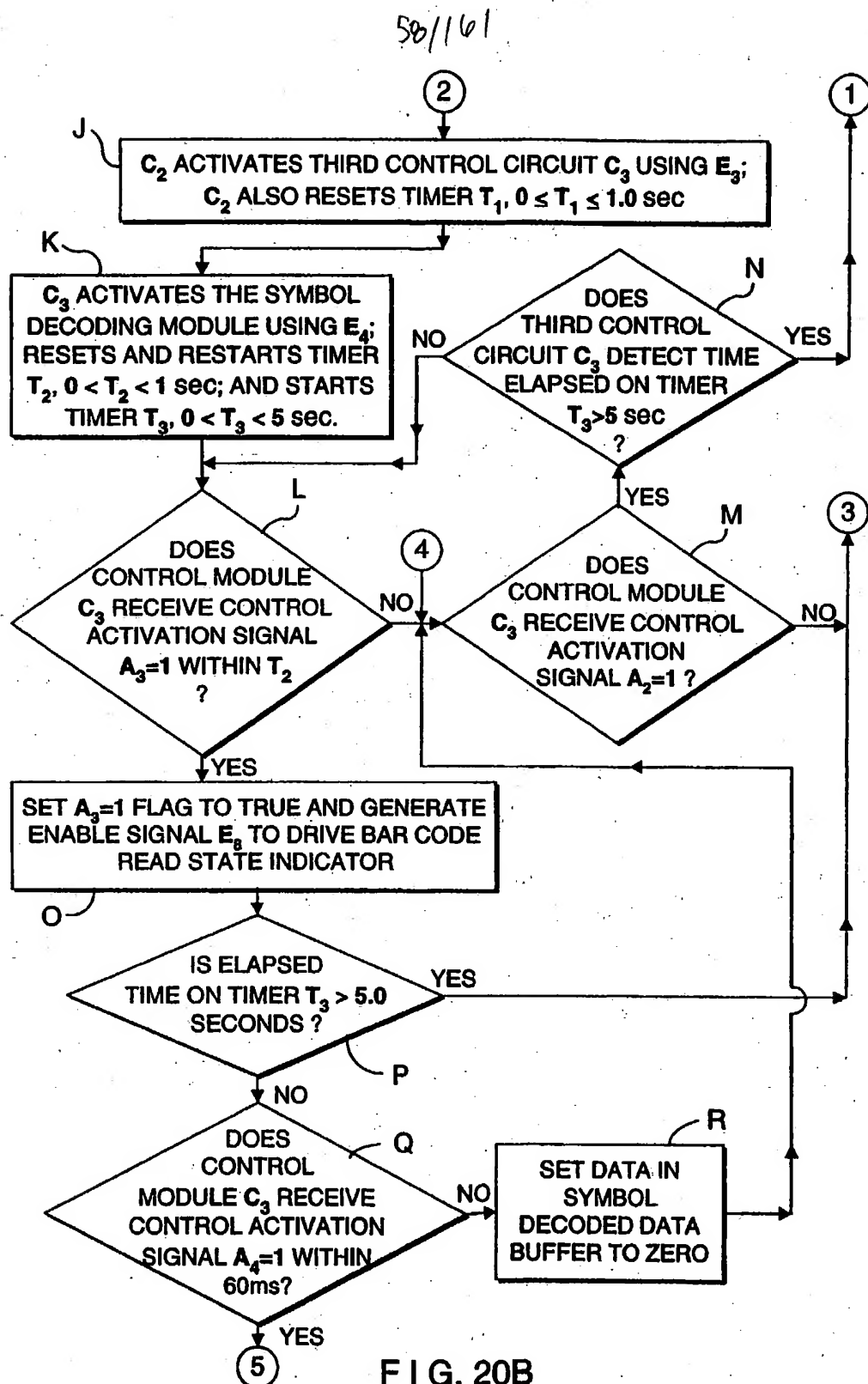


FIG. 20A2



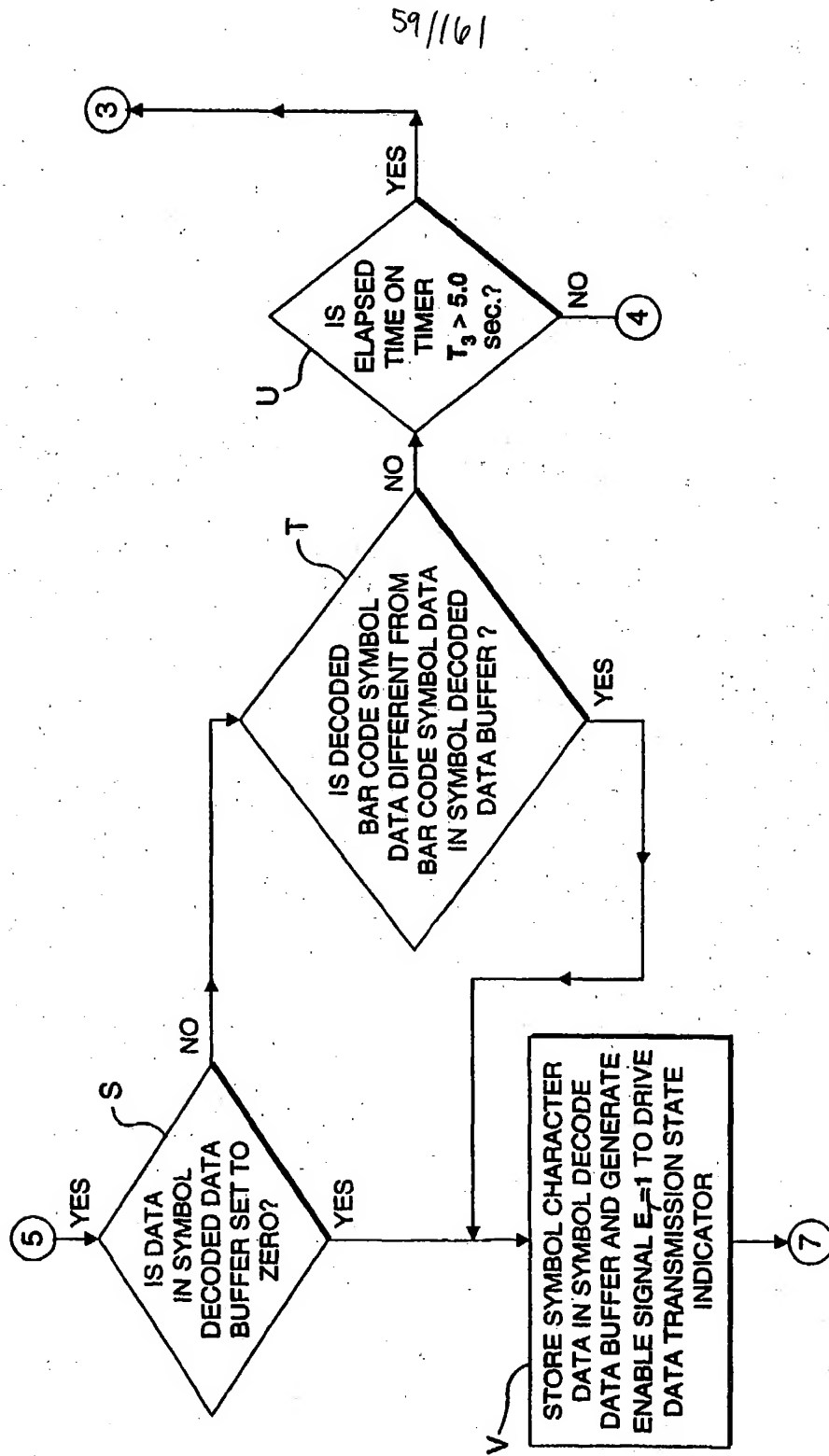


FIG. 20C

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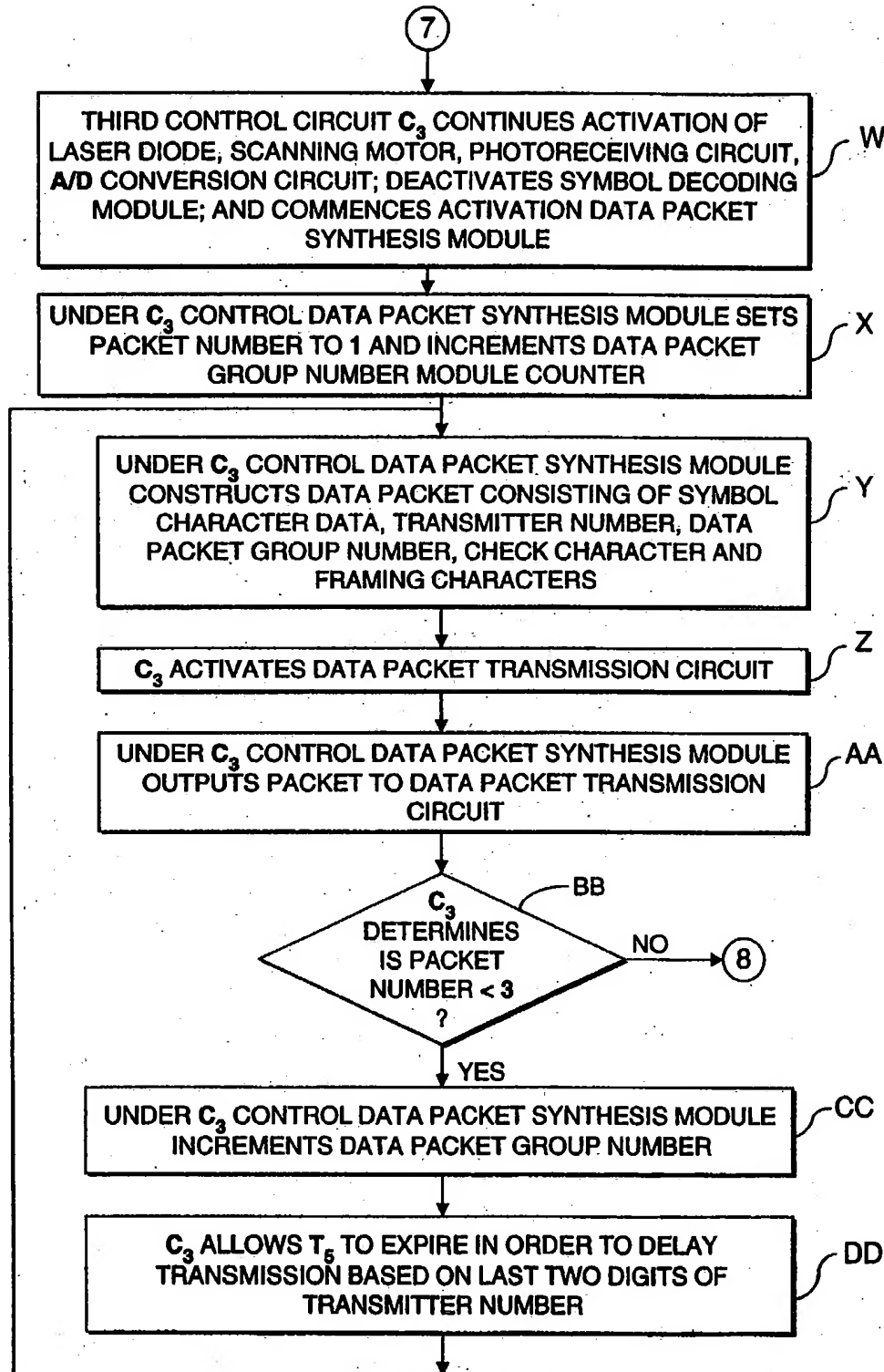


FIG. 20D



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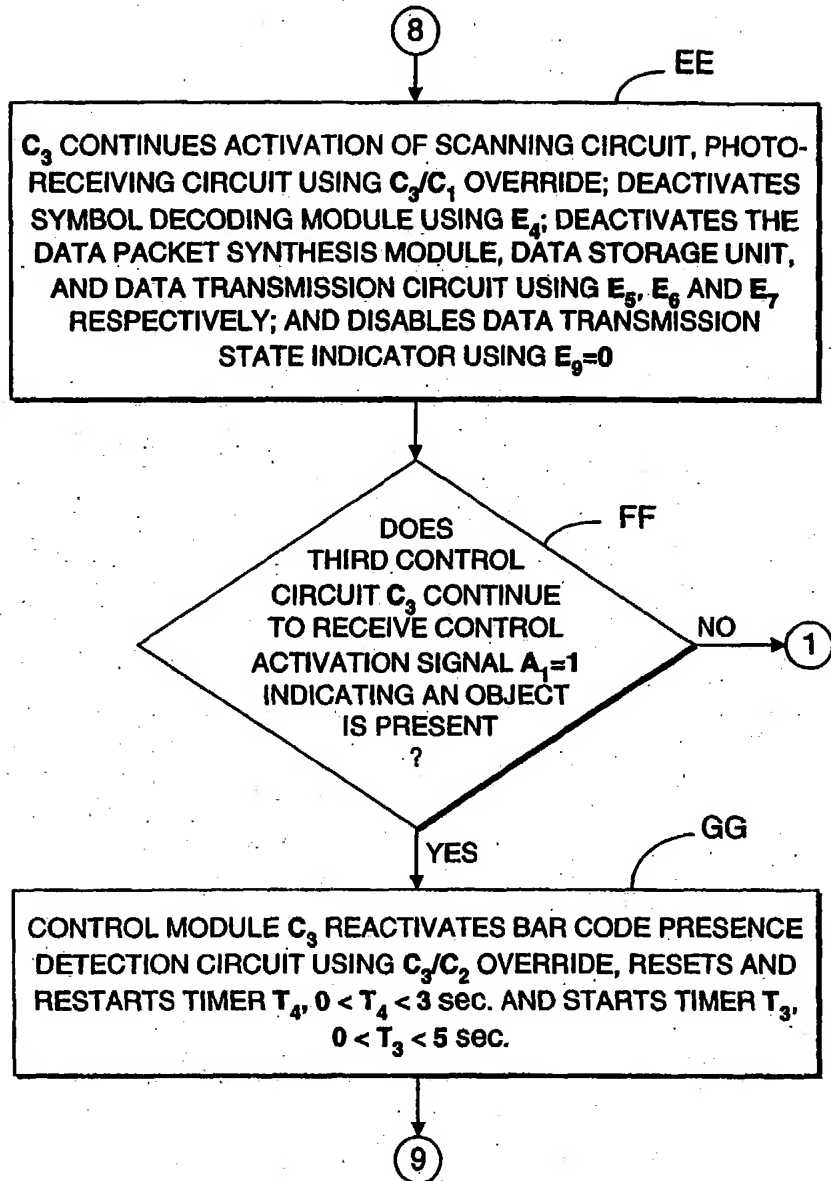


FIG. 20E

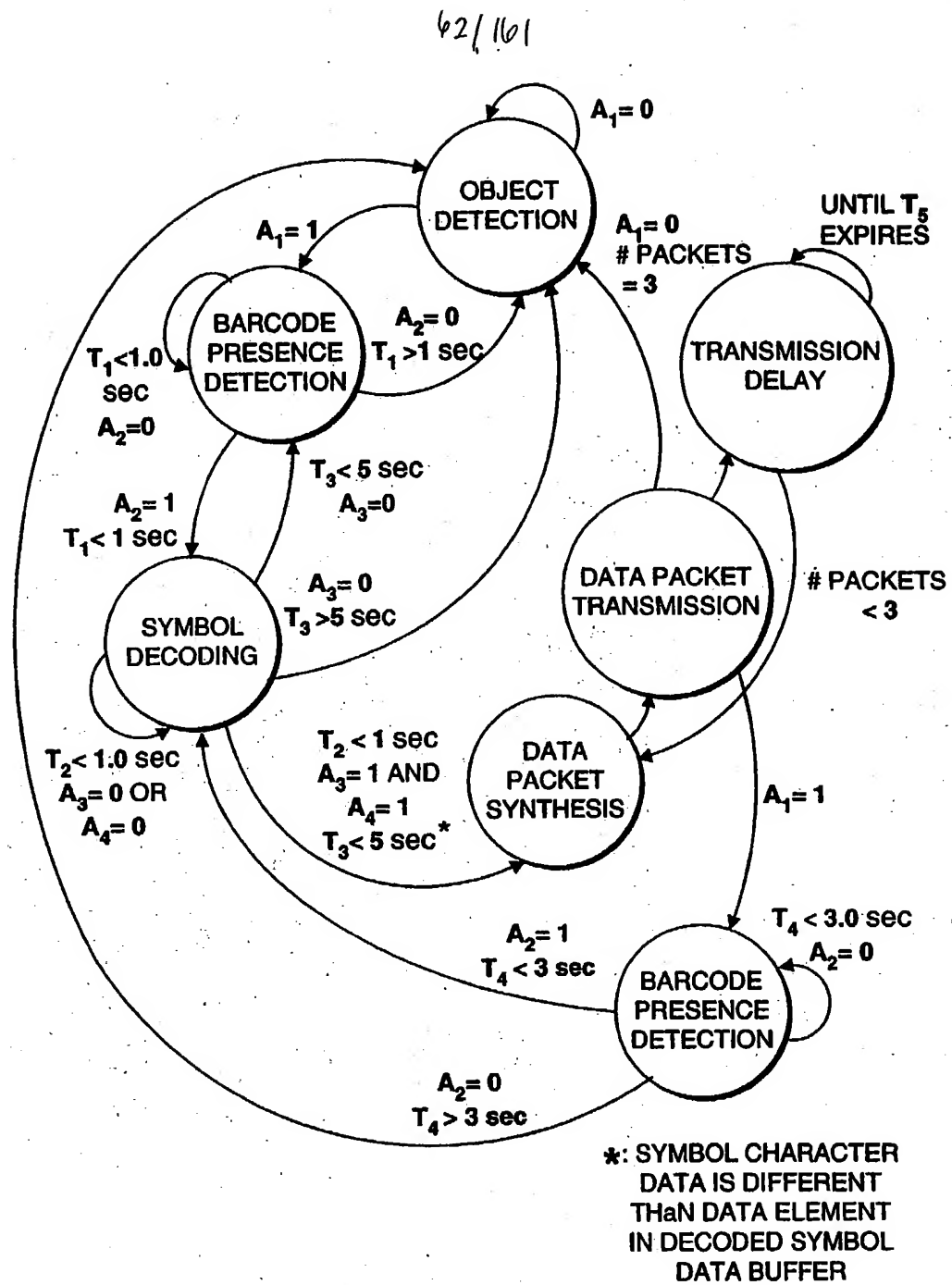


FIG. 21

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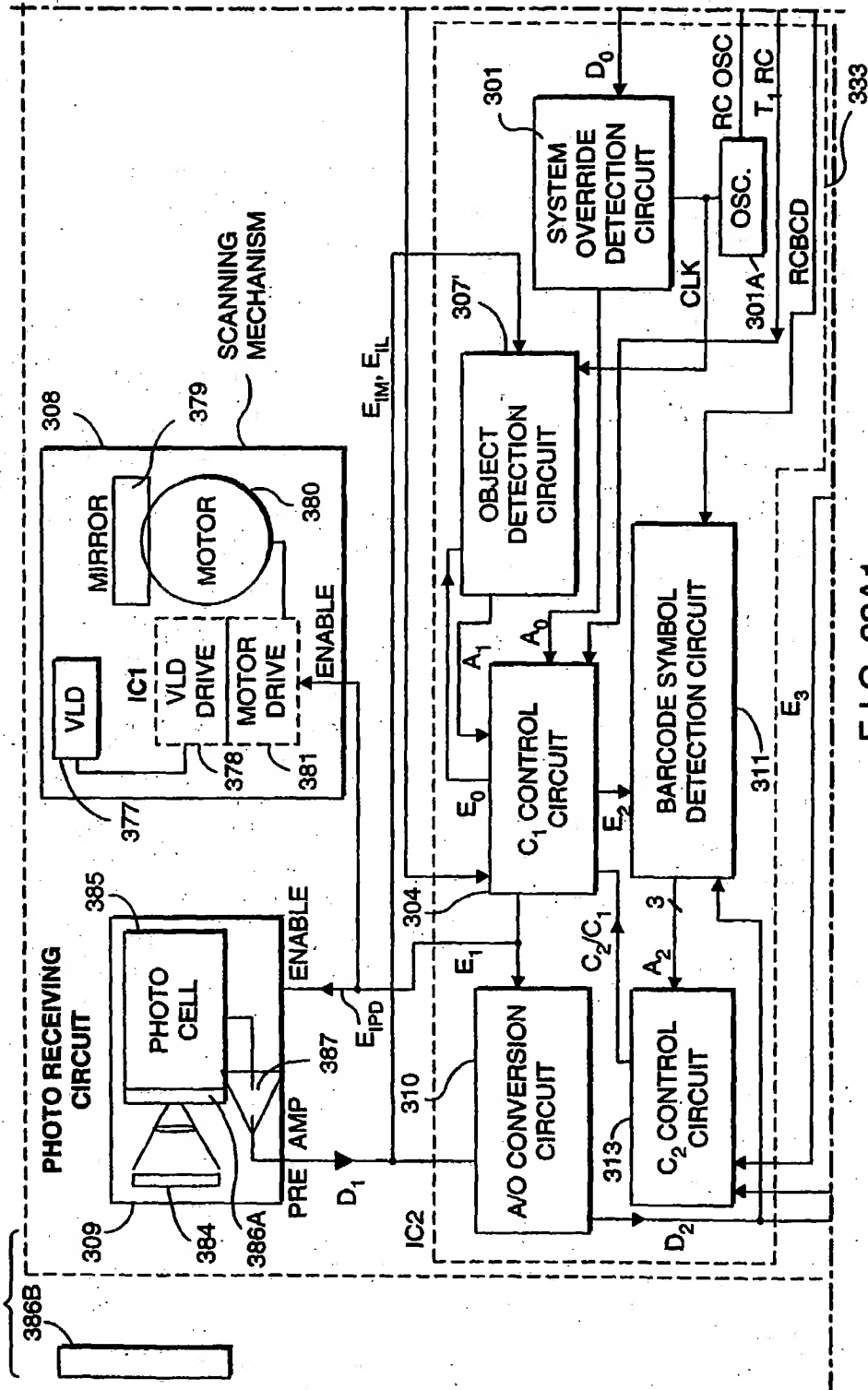


FIG. 22A1

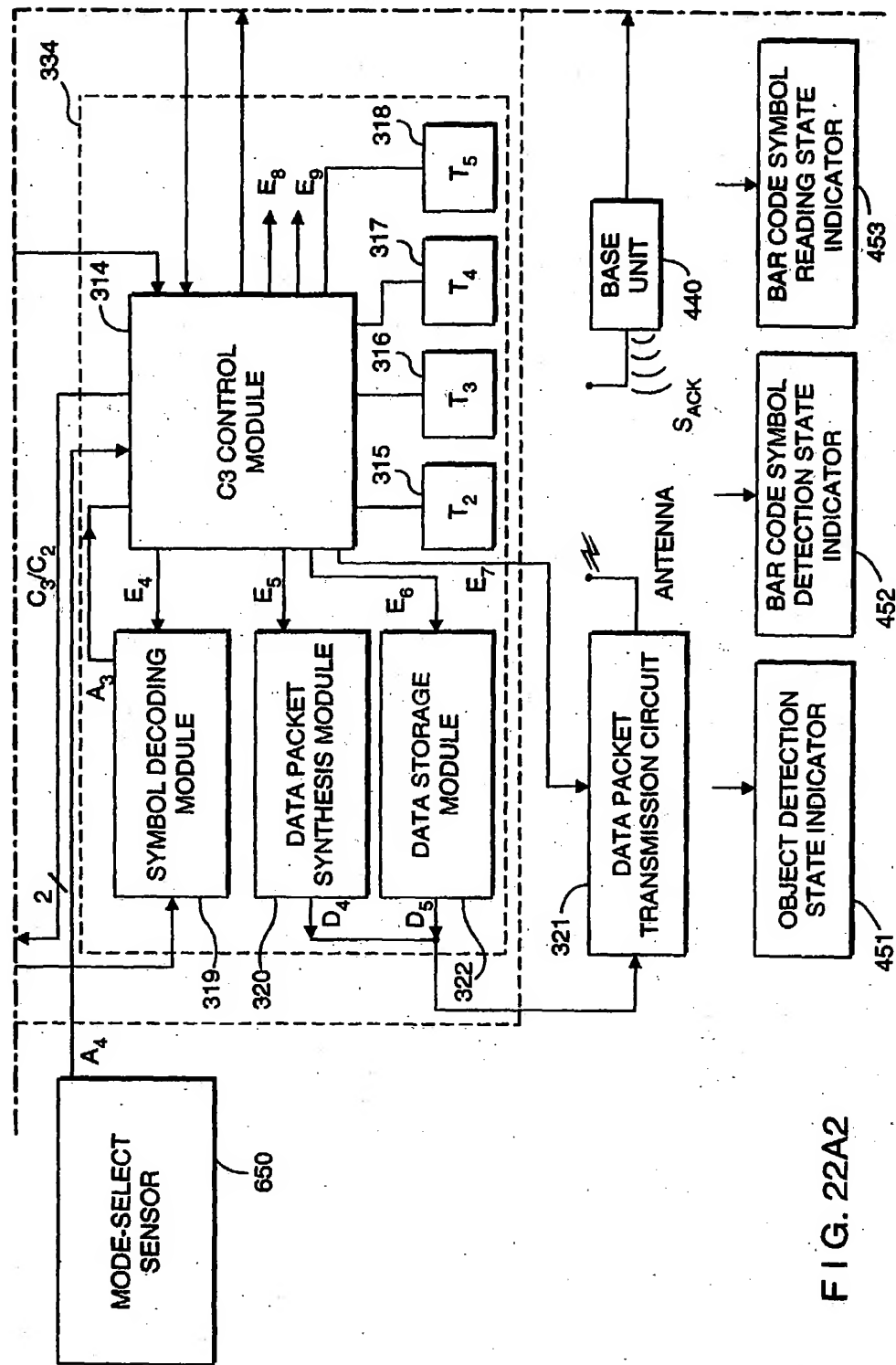


FIG. 22A2

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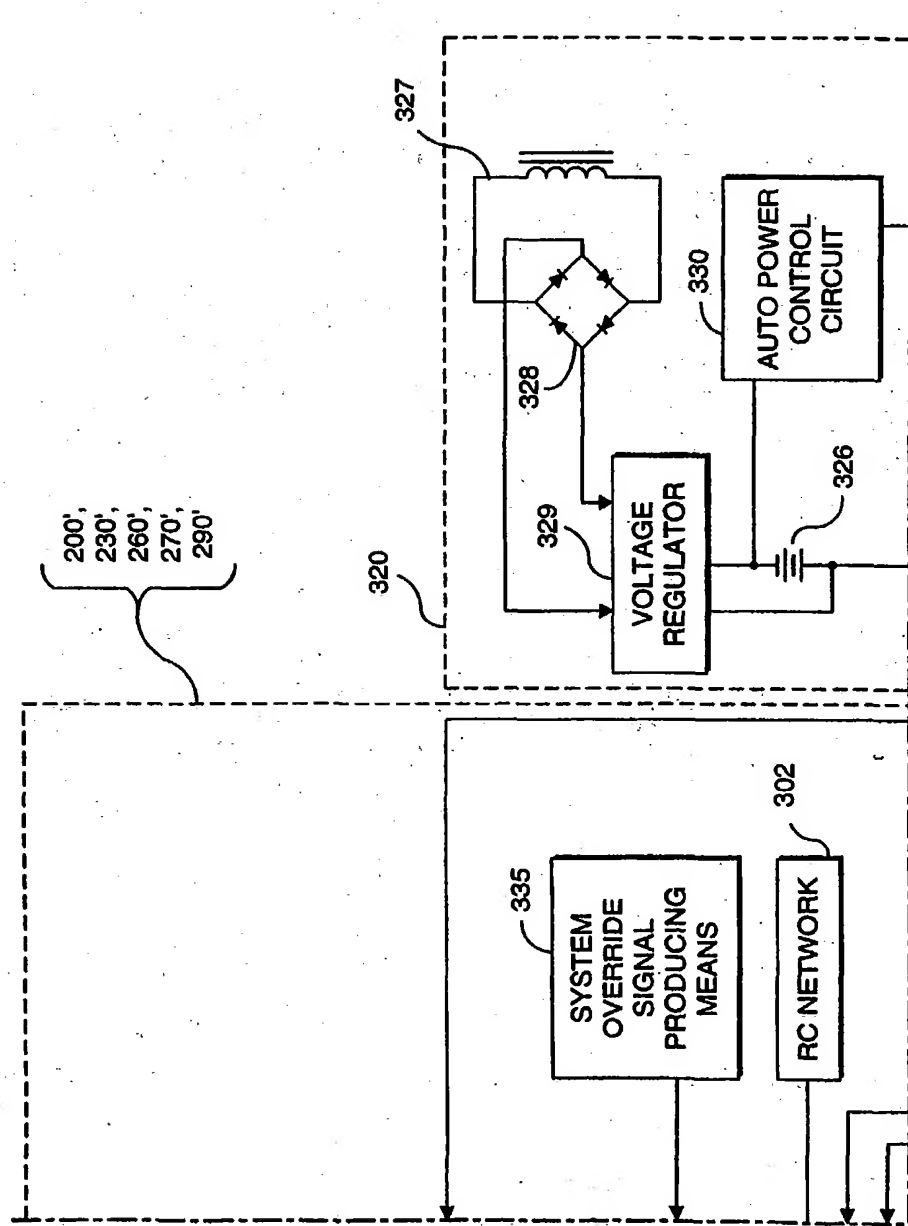


FIG. 22A3

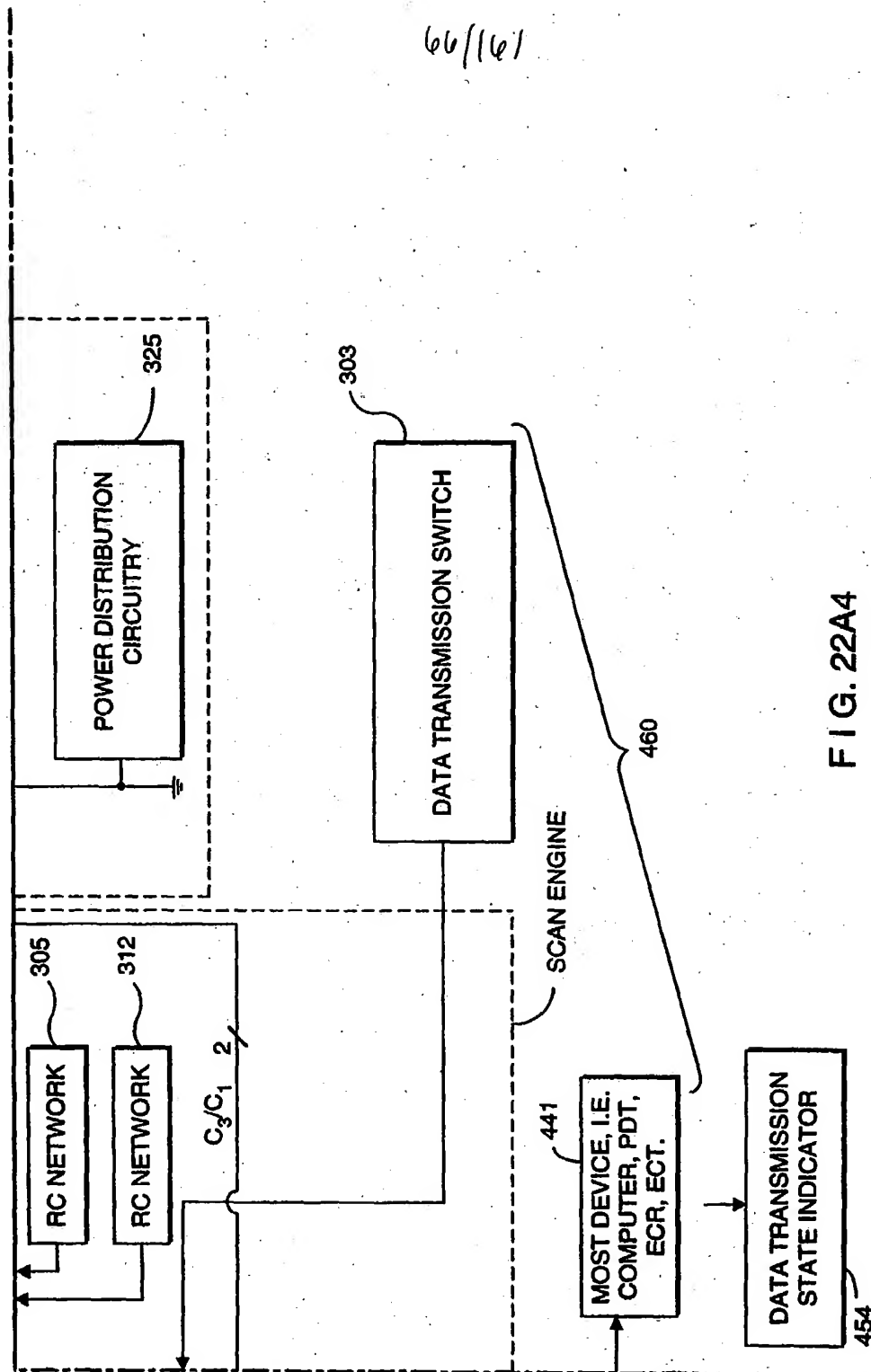


FIG. 22A4

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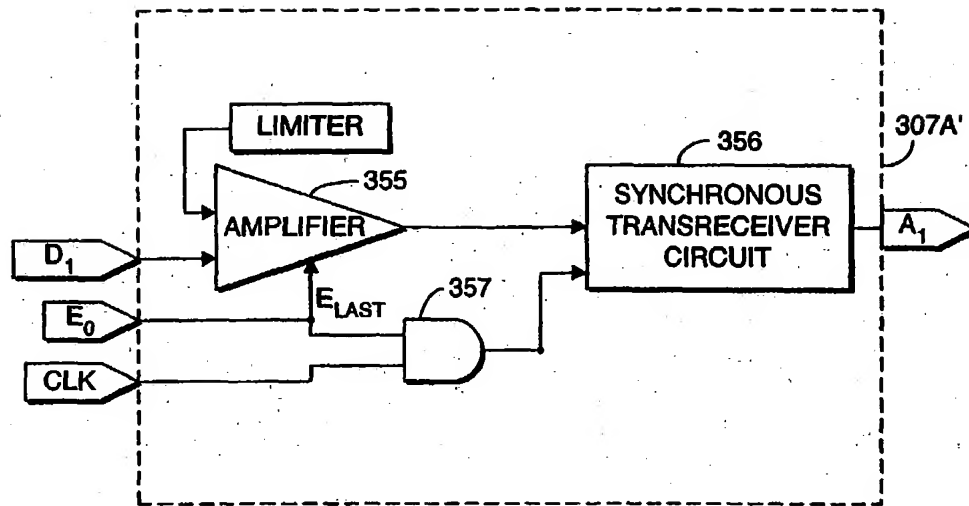


FIG. 22B

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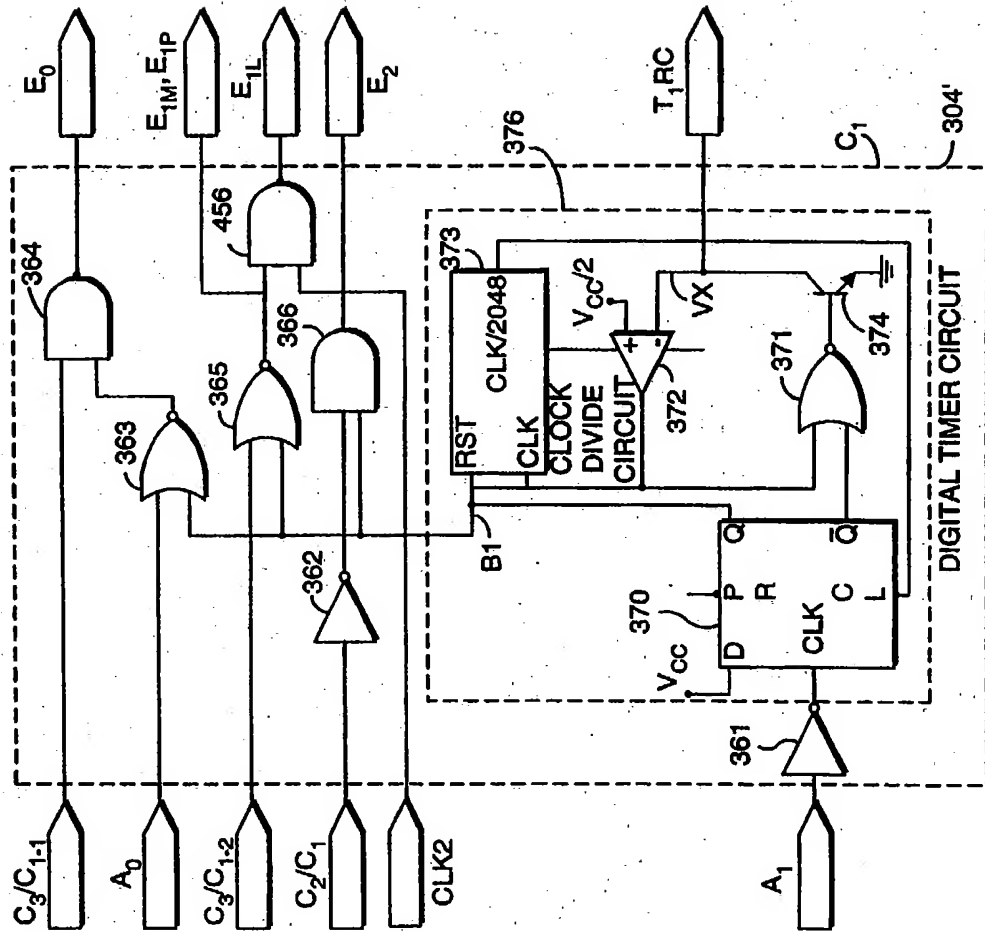


FIG. 22C



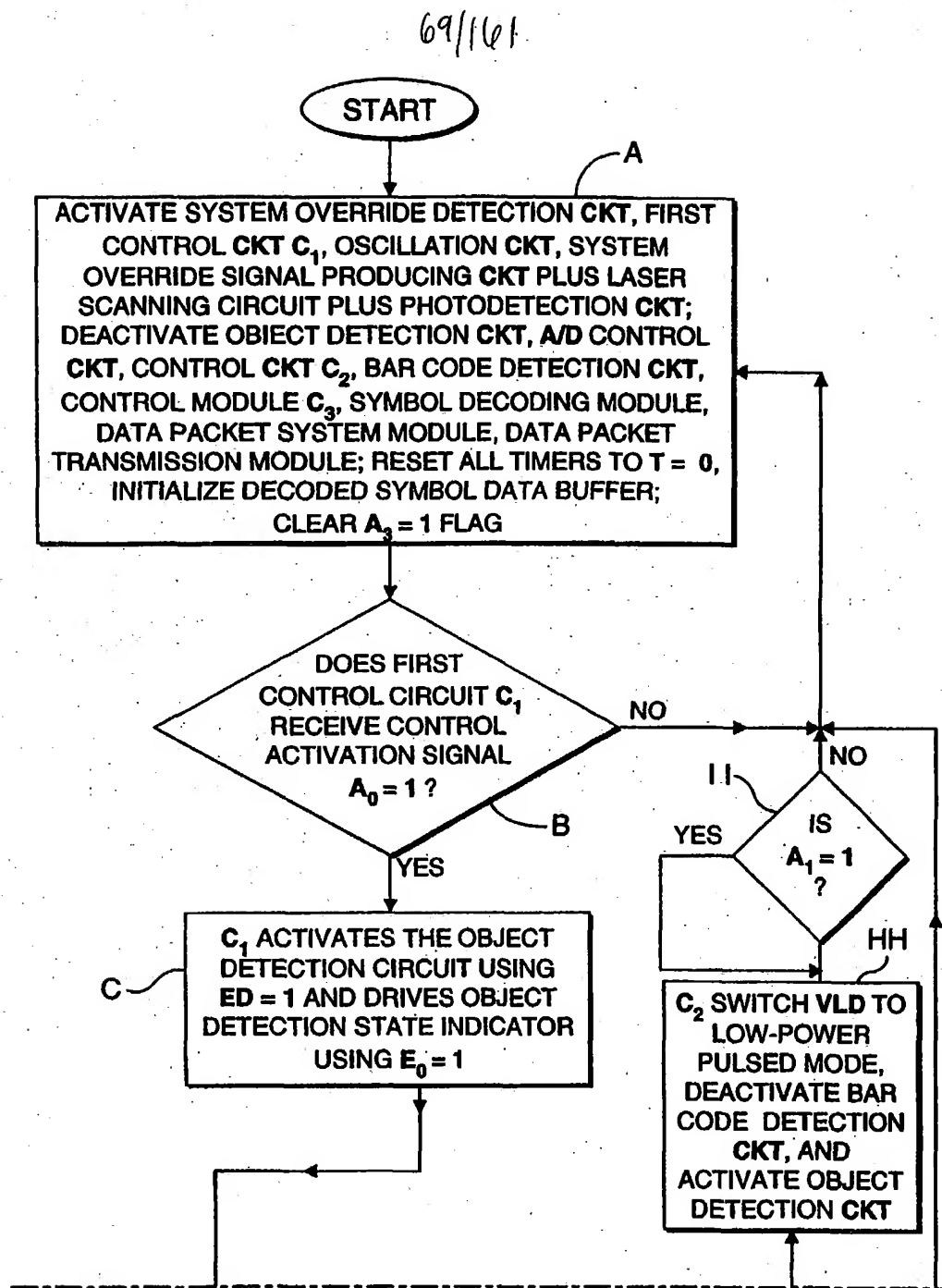


FIG. 23A1

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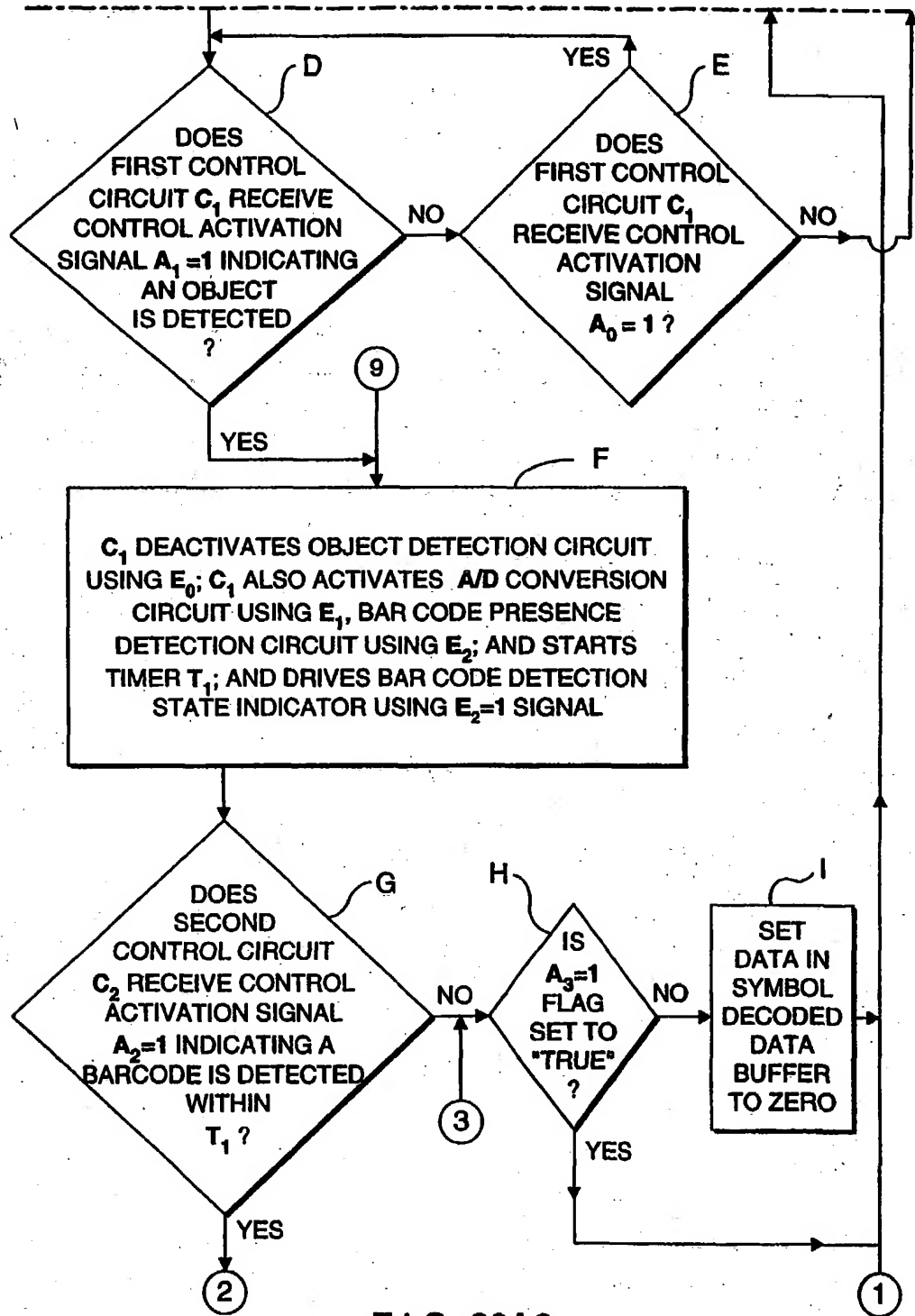
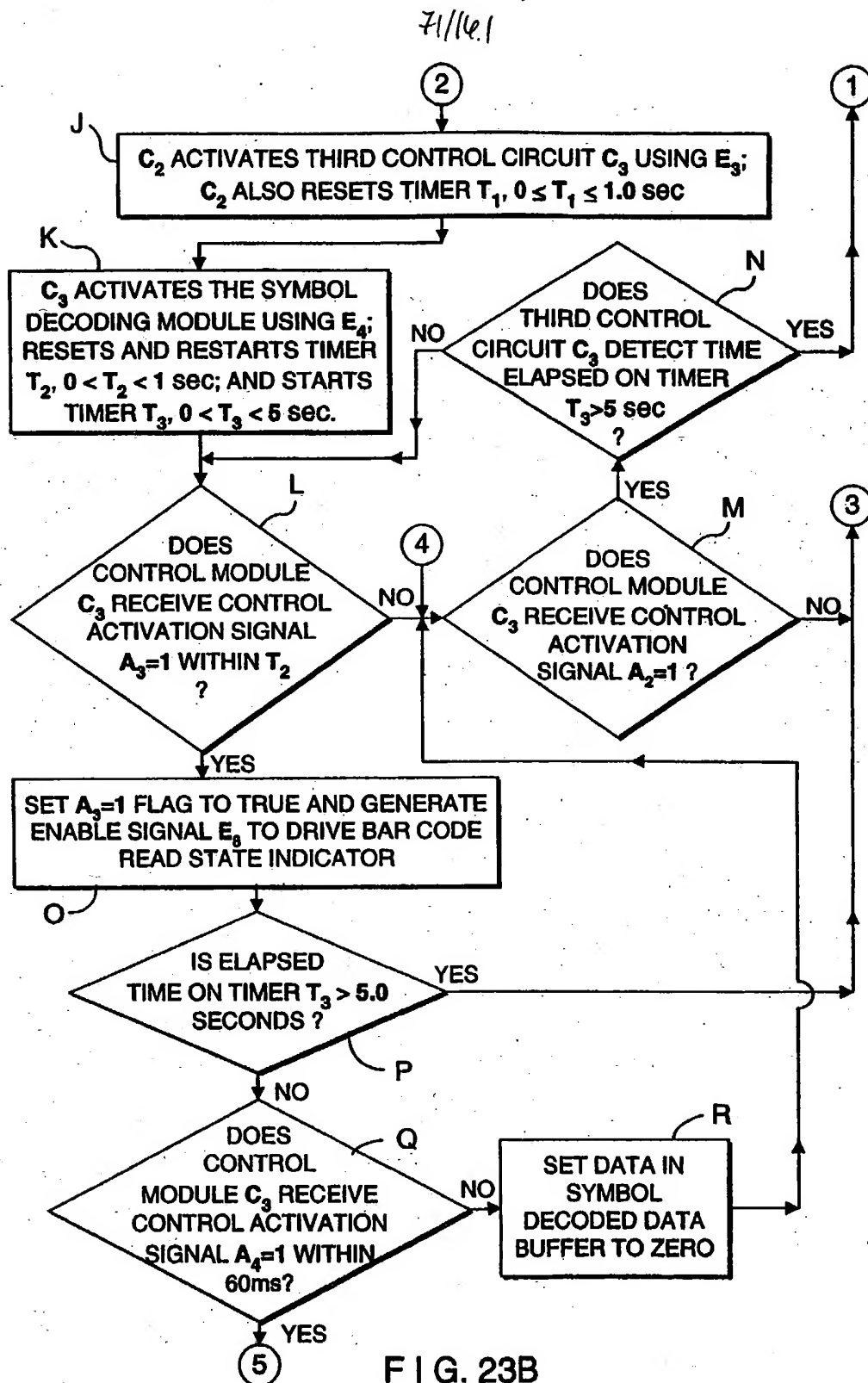


FIG. 23A2



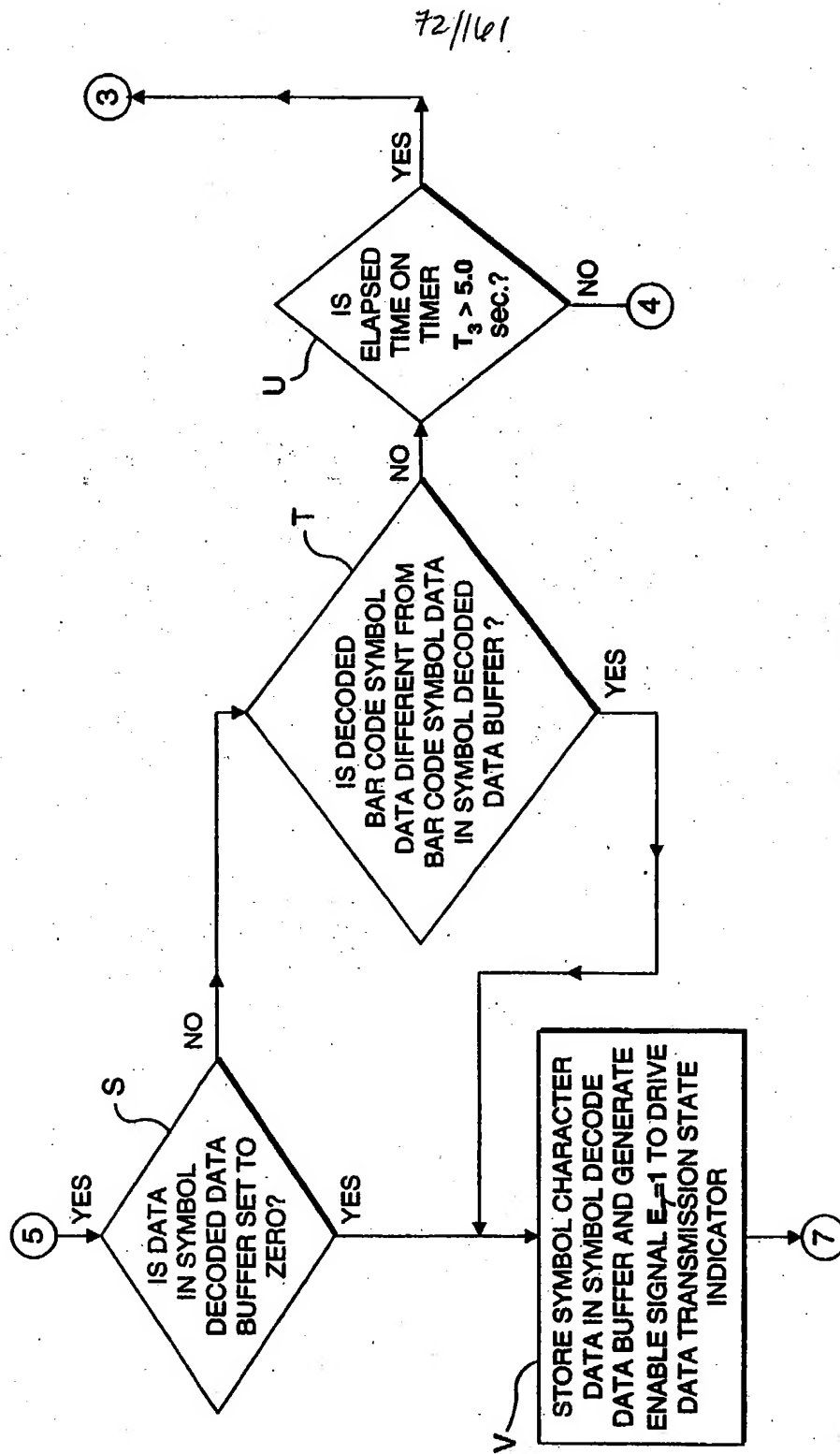


FIG. 23C

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7

THIRD CONTROL CIRCUIT  $C_3$  CONTINUES ACTIVATION OF LASER DIODE, SCANNING MOTOR, PHOTORECEIVING CIRCUIT, A/D CONVERSION CIRCUIT; DEACTIVATES SYMBOL DECODING MODULE; AND COMMENCES ACTIVATION DATA PACKET SYNTHESIS MODULE

W

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE SETS PACKET NUMBER TO 1 AND INCREMENTS DATA PACKET GROUP NUMBER MODULE COUNTER

X

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE CONSTRUCTS DATA PACKET CONSISTING OF SYMBOL CHARACTER DATA, TRANSMITTER NUMBER, DATA PACKET GROUP NUMBER, CHECK CHARACTER AND FRAMING CHARACTERS

Y

$C_3$  ACTIVATES DATA PACKET TRANSMISSION CIRCUIT

Z

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE OUTPUTS PACKET TO DATA PACKET TRANSMISSION CIRCUIT

AA

$C_3$  DETERMINES IS PACKET NUMBER  $< 3$  ?

BB

NO → 8

YES

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE INCREMENTS DATA PACKET GROUP NUMBER

CC

$C_3$  ALLOWS  $T_5$  TO EXPIRE IN ORDER TO DELAY TRANSMISSION BASED ON LAST TWO DIGITS OF TRANSMITTER NUMBER

DD

FIG. 23D

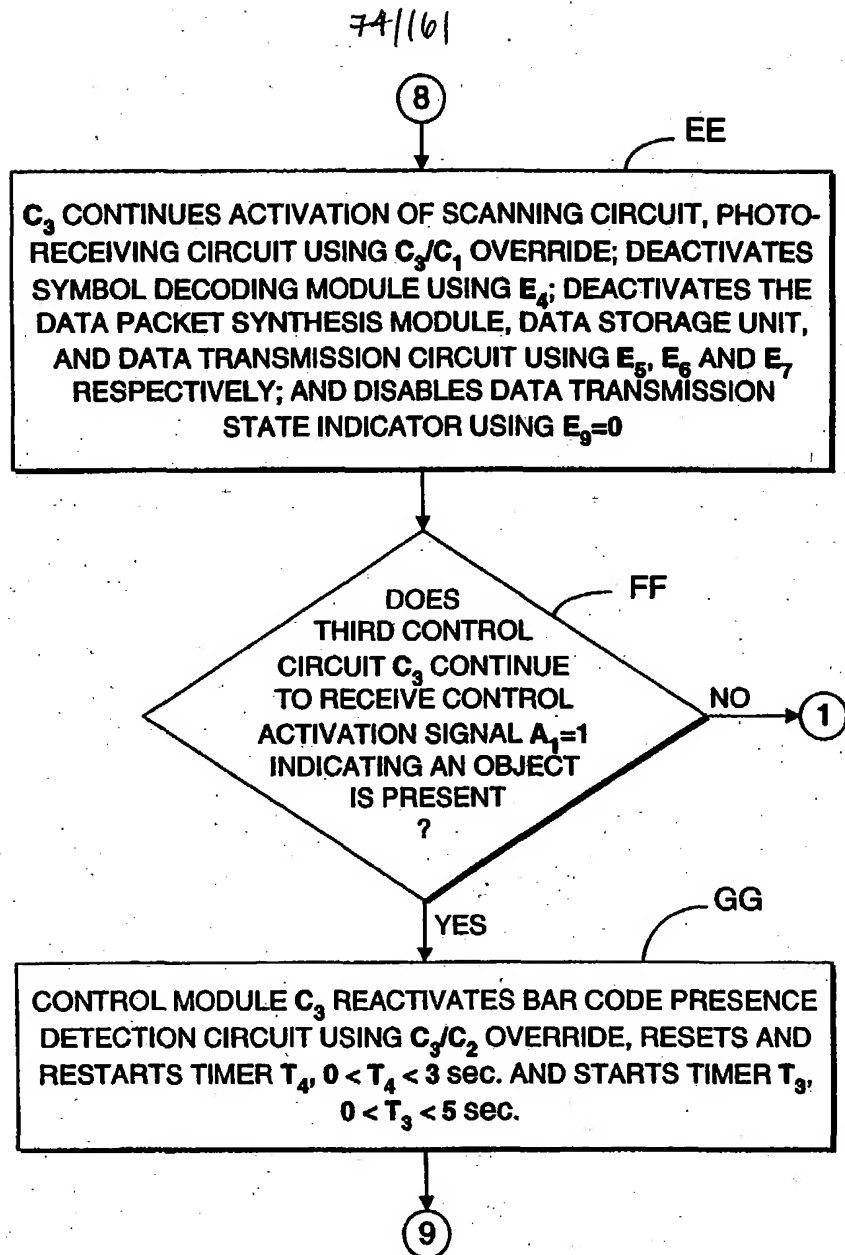
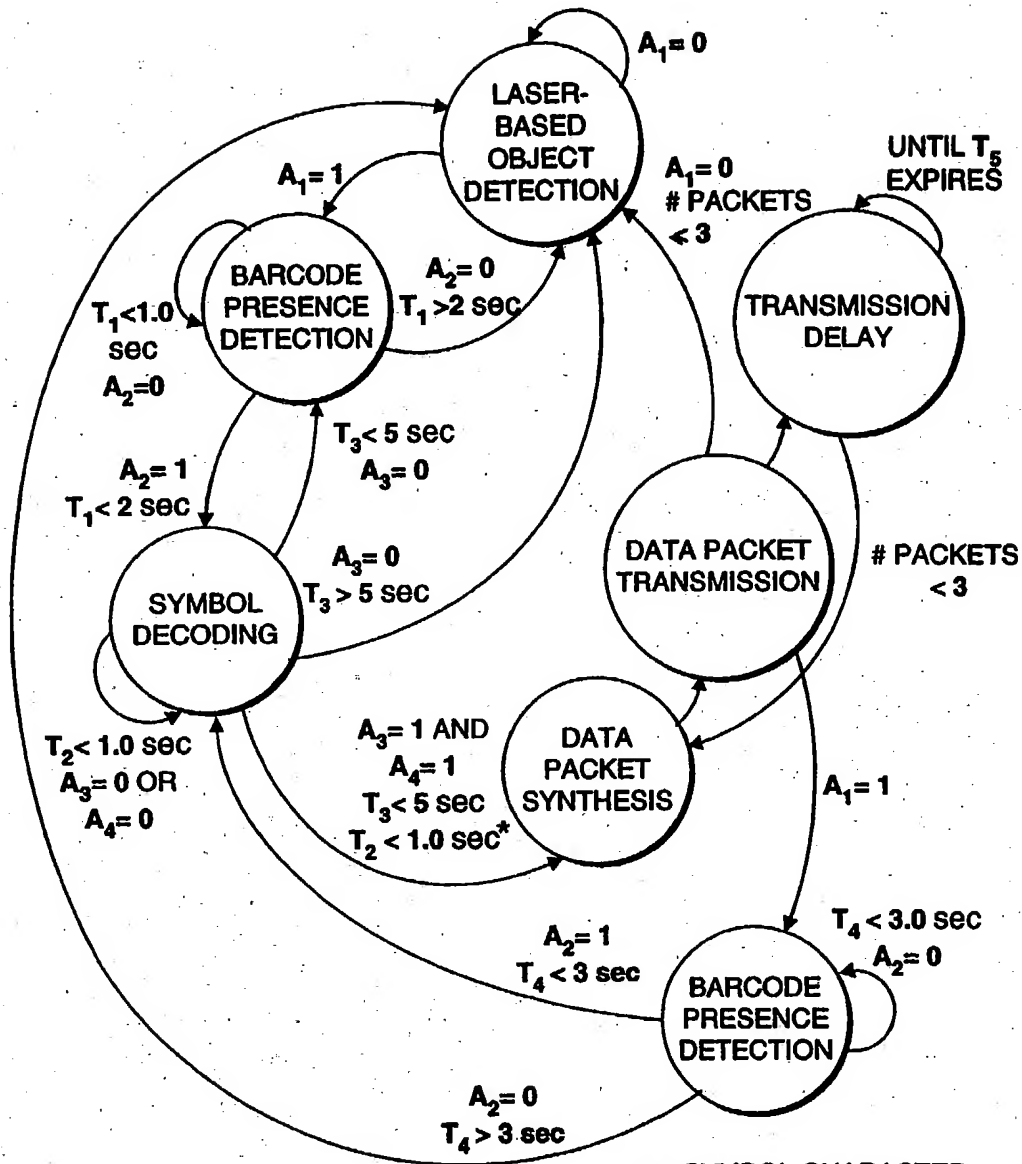


FIG. 23E

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\*: SYMBOL CHARACTER DATA IS DIFFERENT THAN DATA ELEMENT IN DECODED SYMBOL DATA BUFFER

FIG. 24

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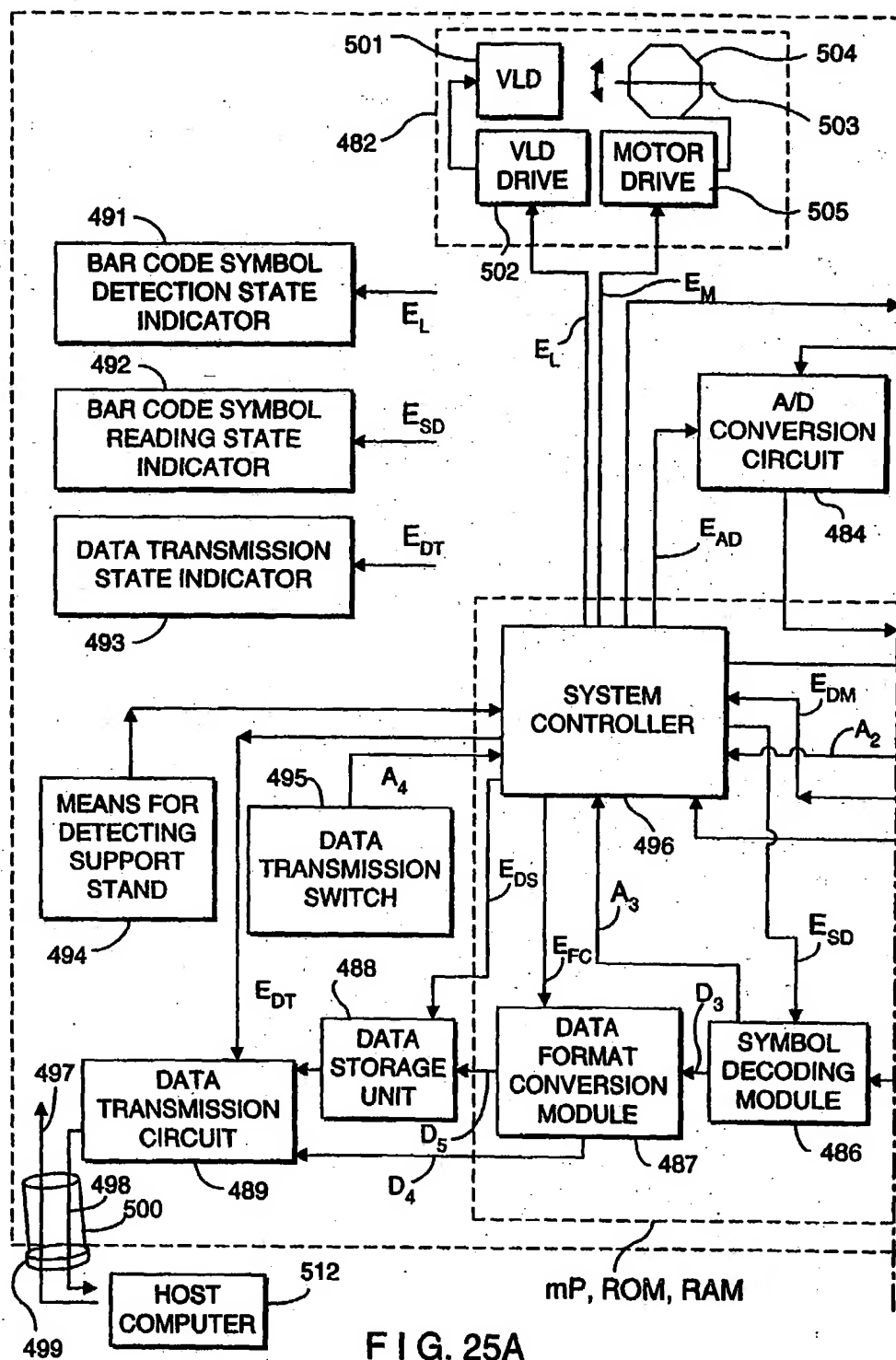


FIG. 25A



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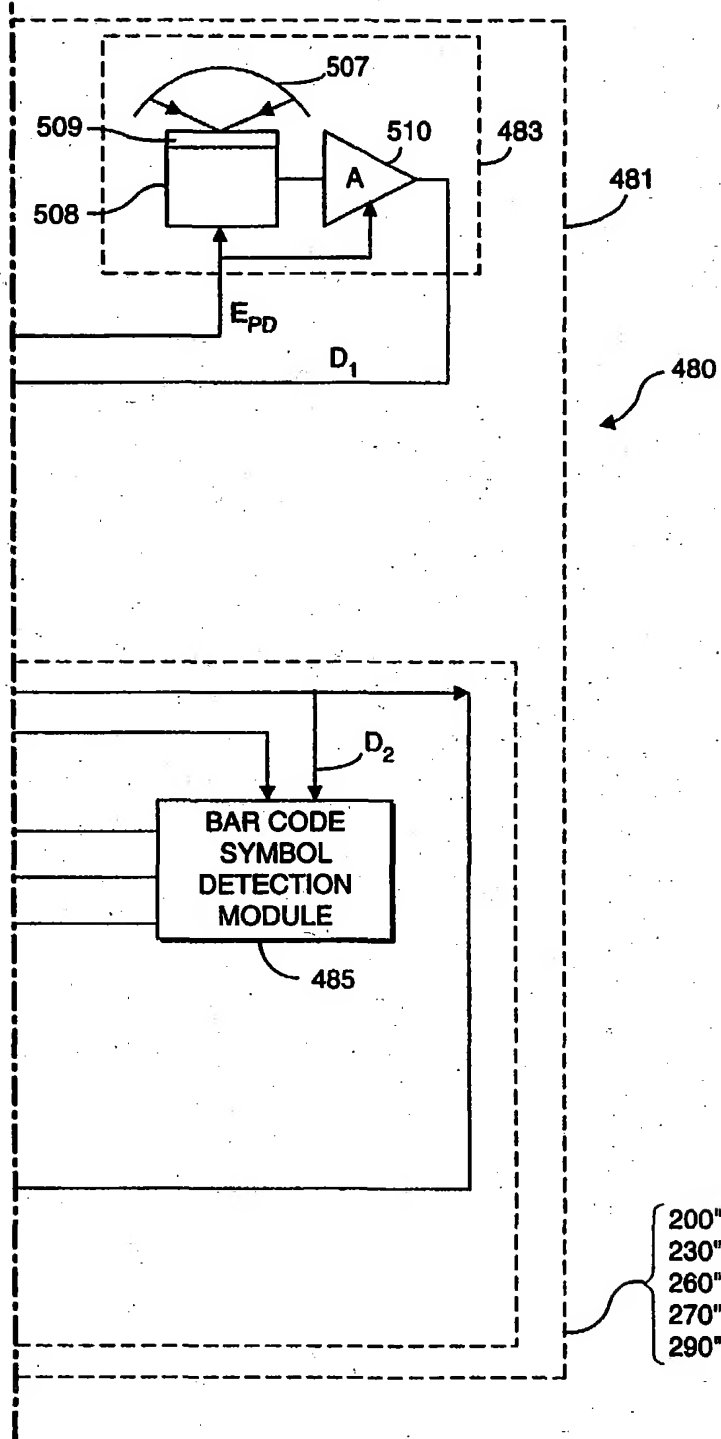


FIG. 25B

$T_1 = 1/2 \text{ sec.}, T_{\text{LASEROFF}} = 1/2 \text{ sec.}$

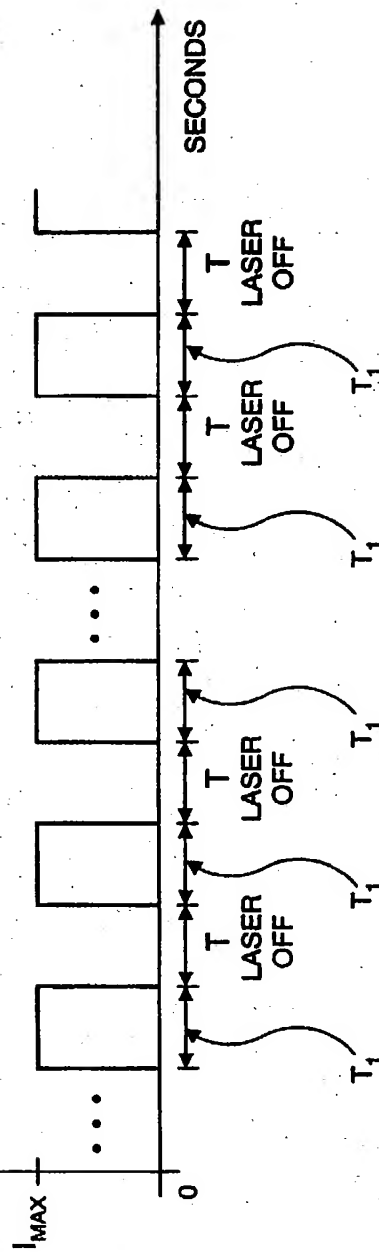
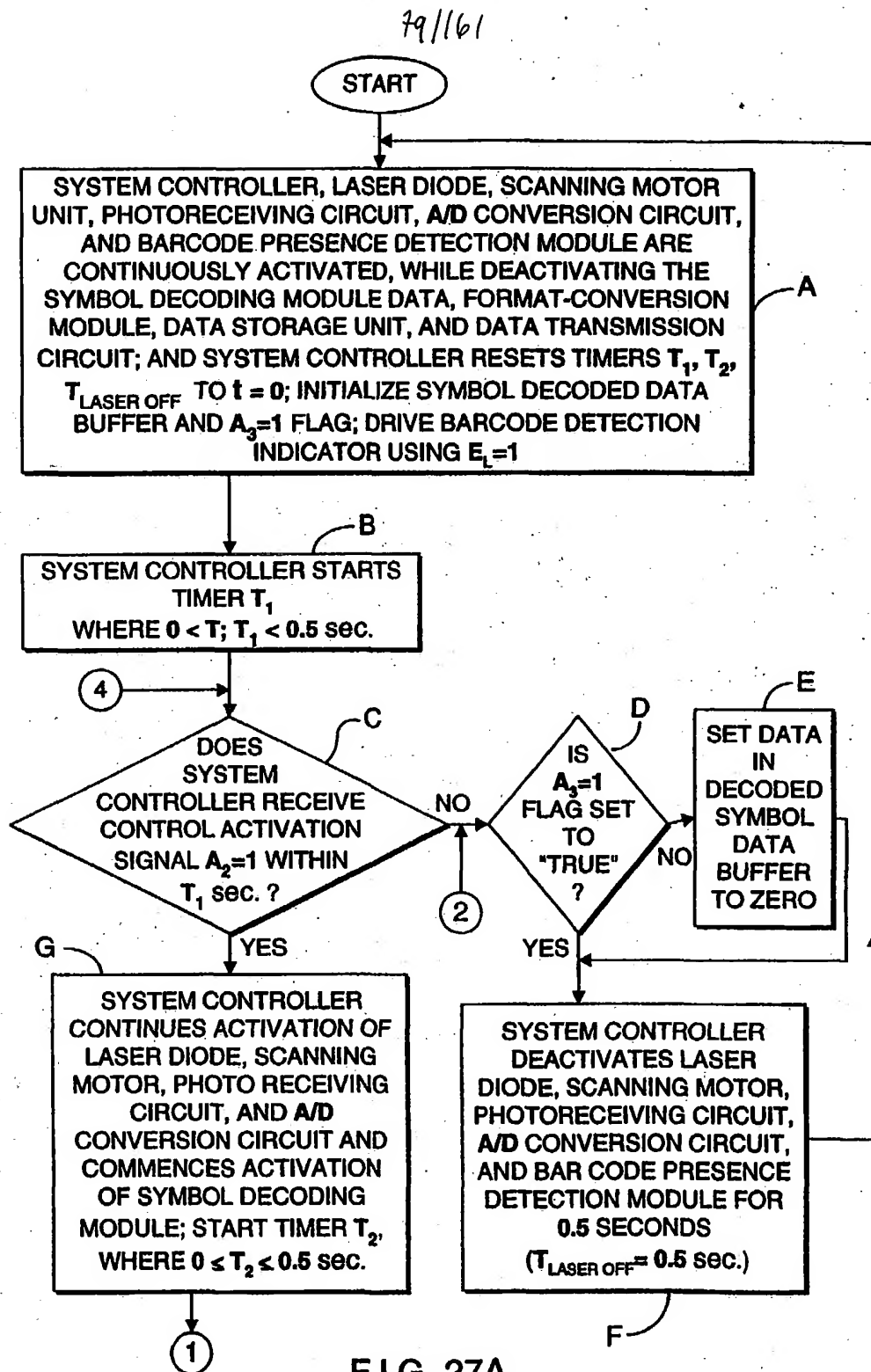


FIG. 26

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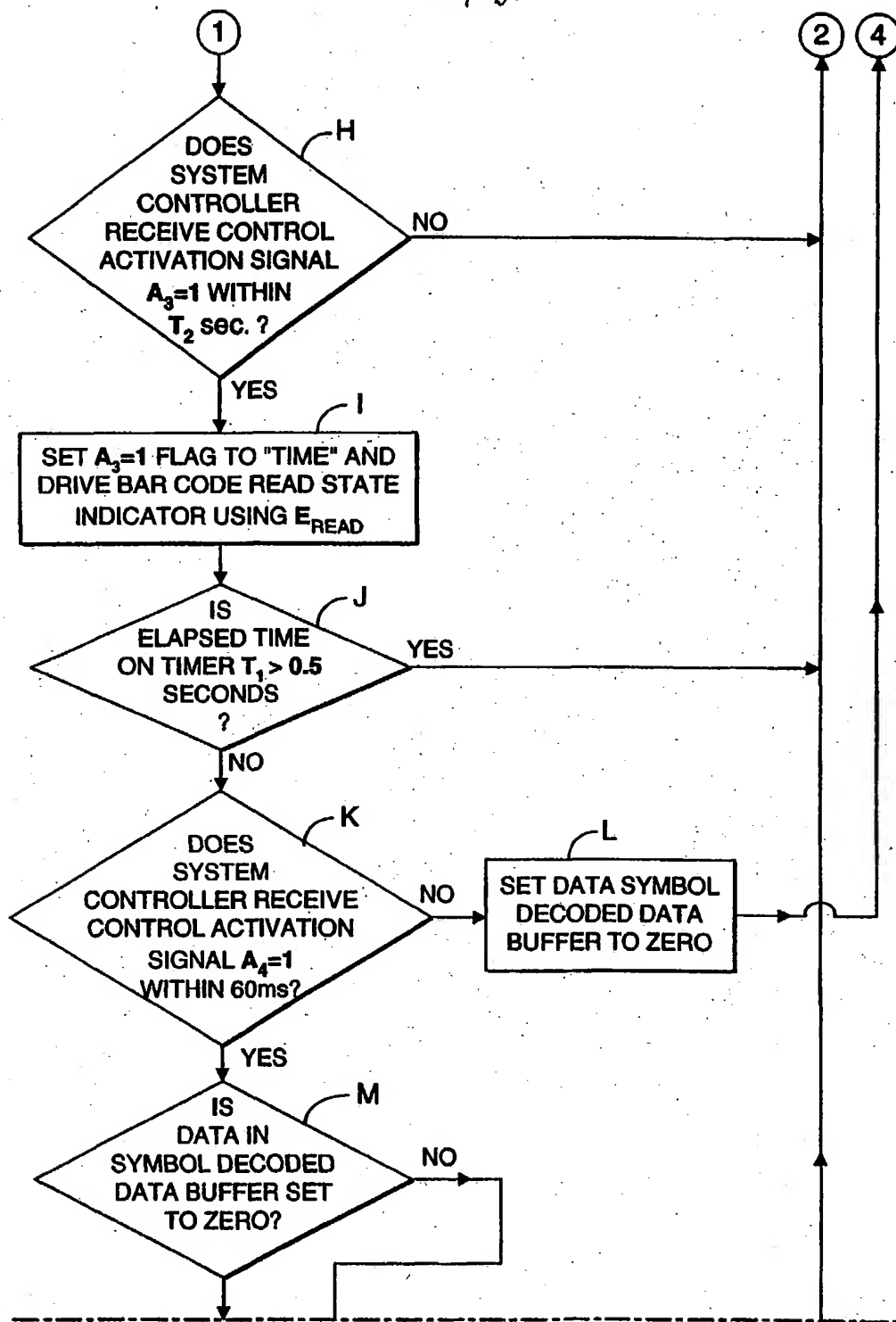


FIG. 27B1

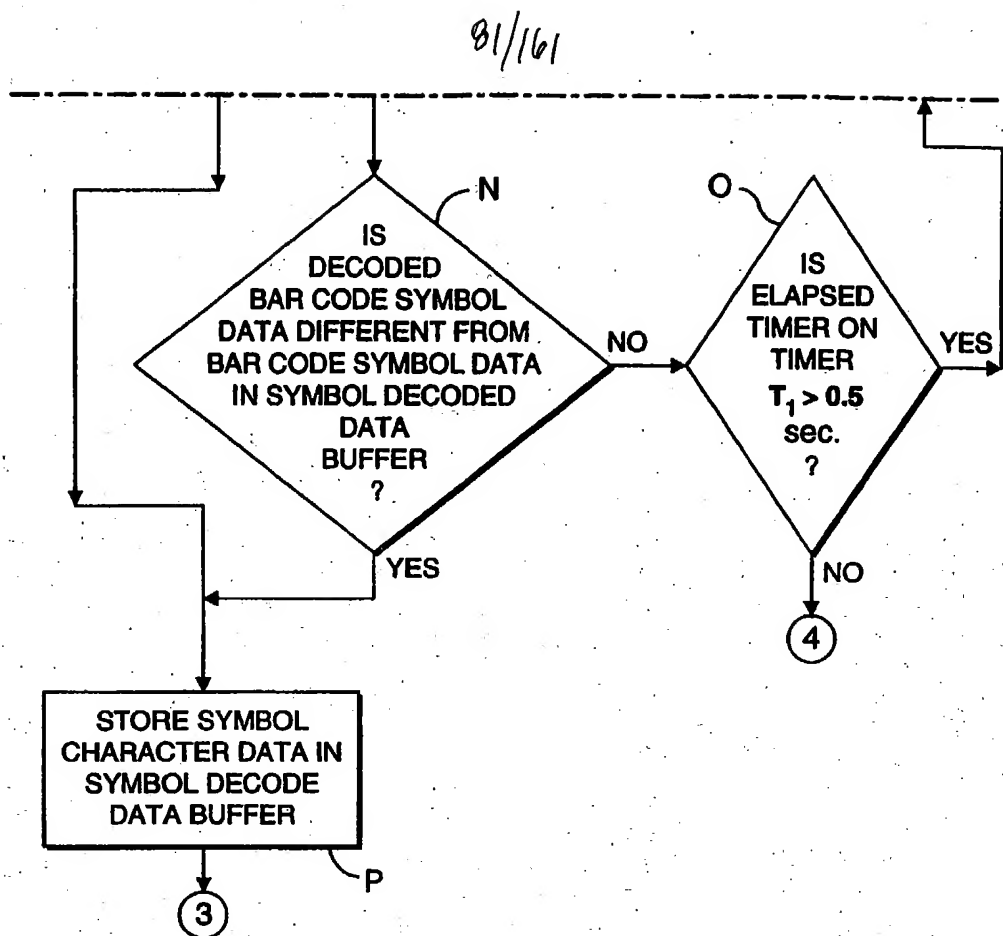


FIG. 27B2

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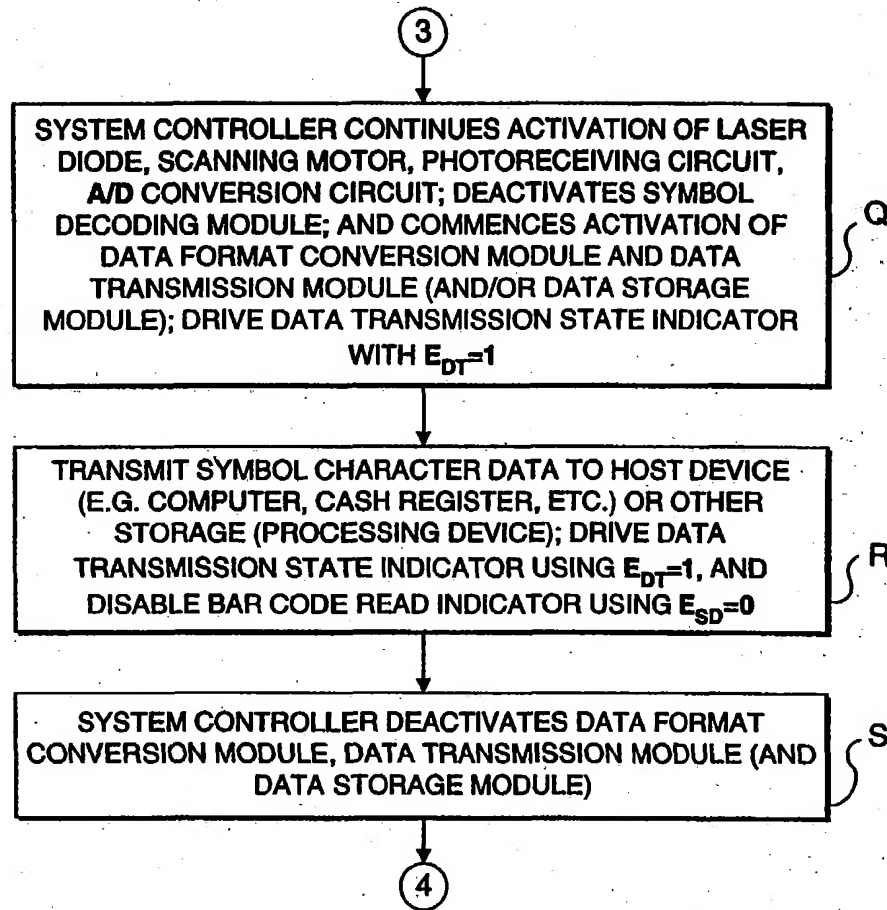


FIG. 27C

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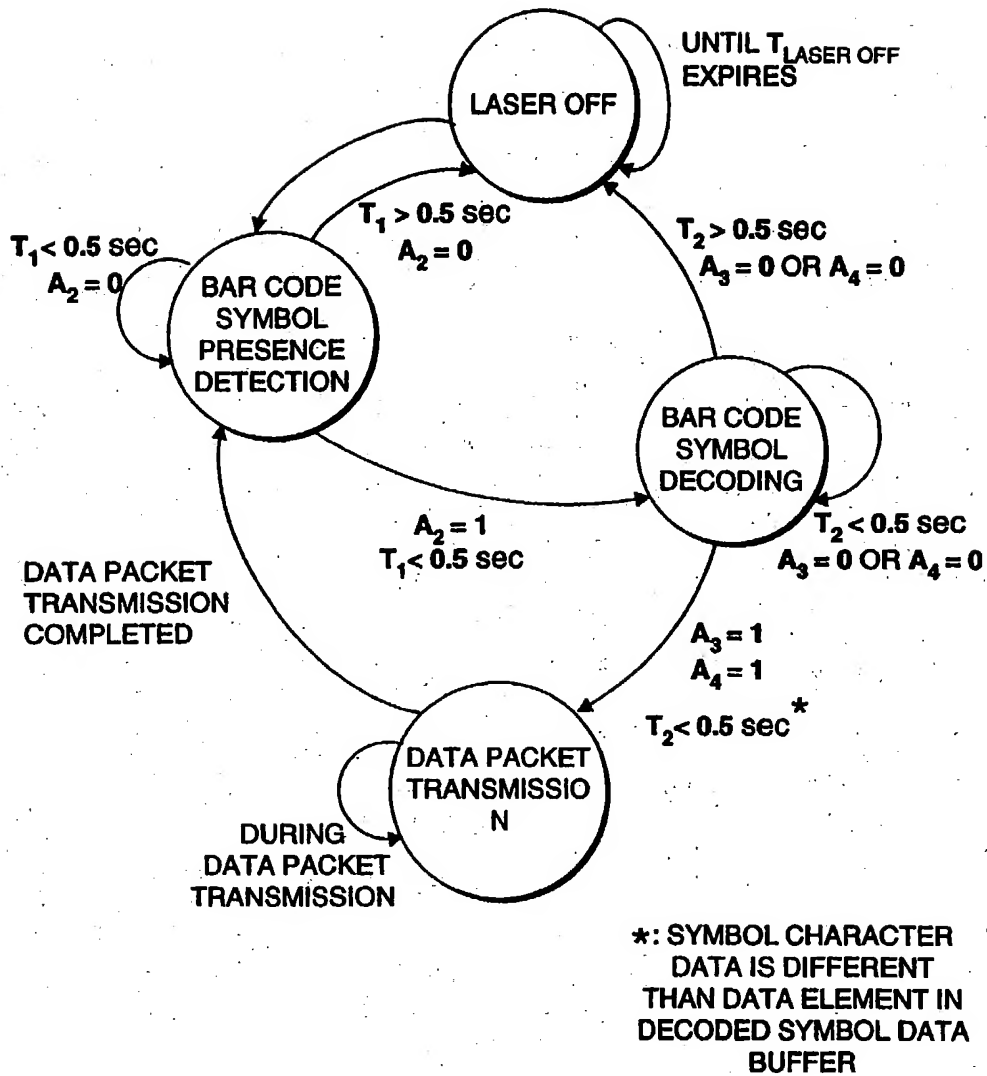


FIG. 28

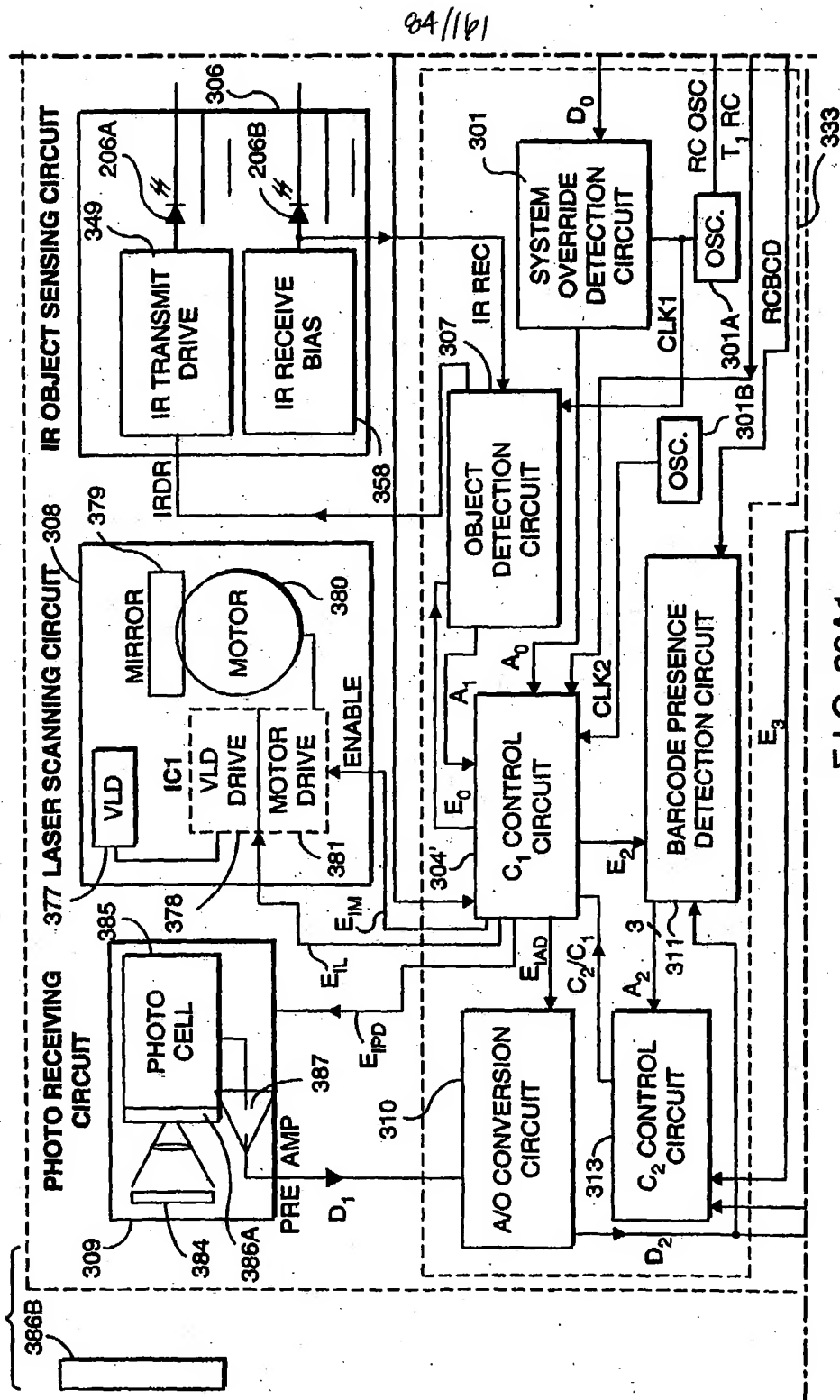


FIG. 29A1



[illegible]

**FIG. 29A2**

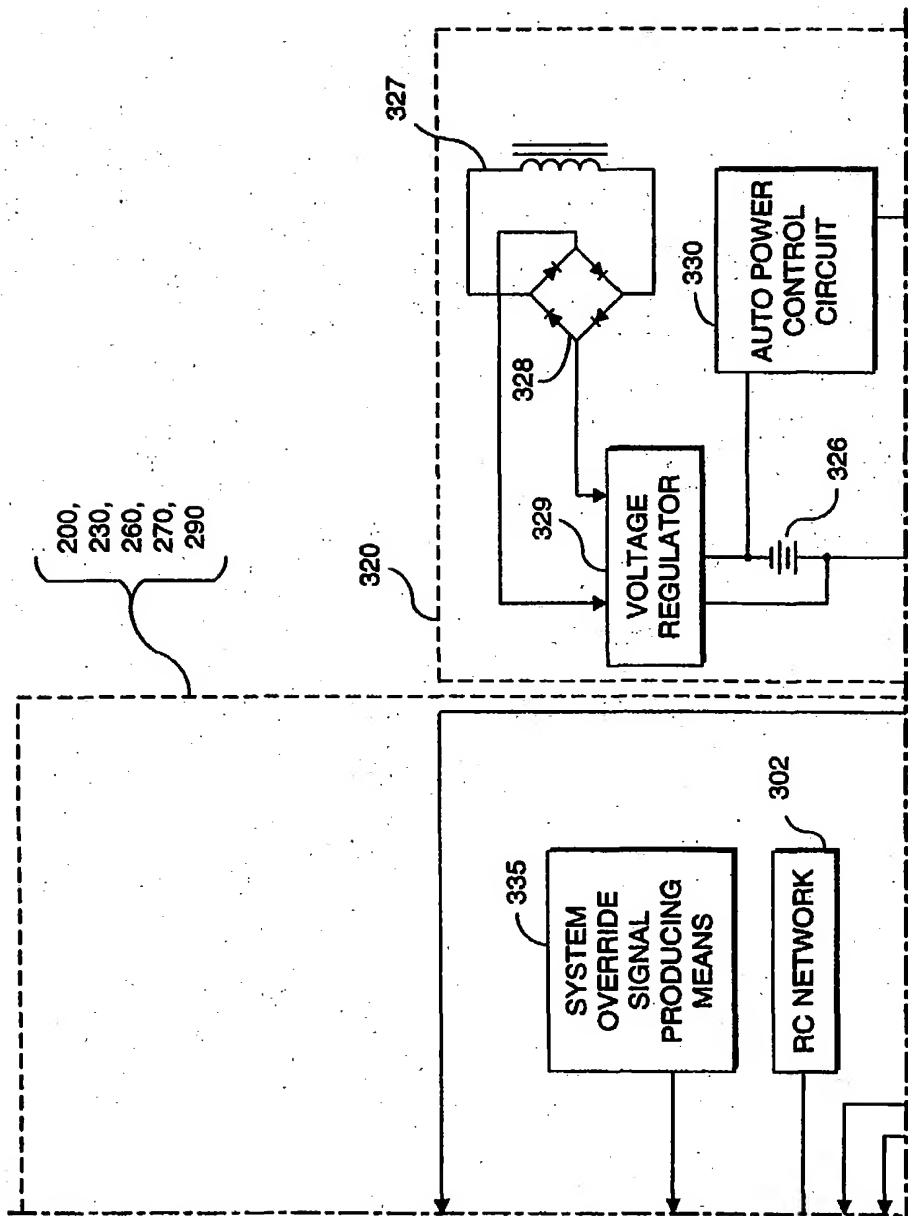


FIG. 29A3

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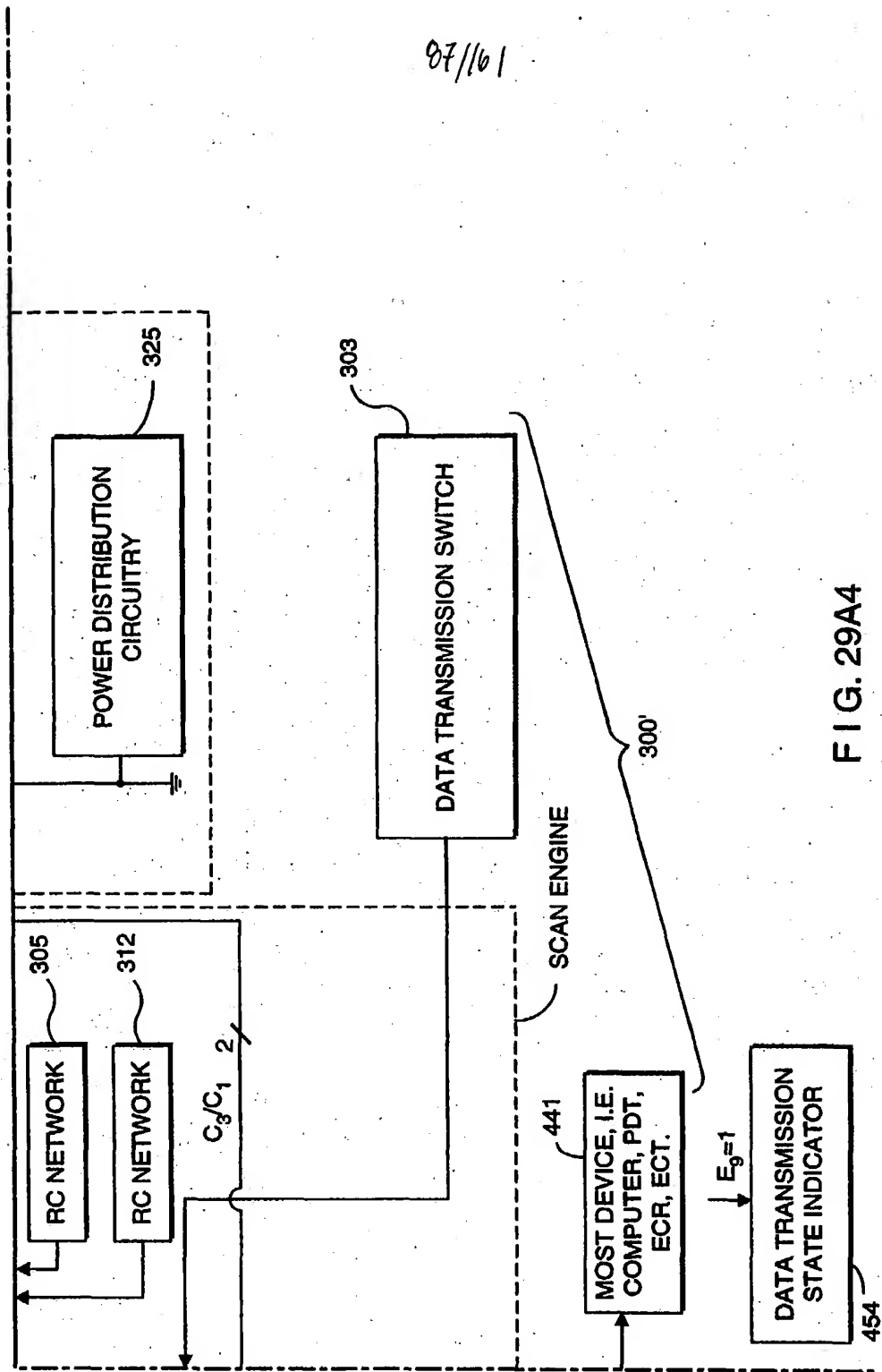


FIG. 29A4

**FIG. 29B**

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F I G. 29C

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$$\left\{ \begin{array}{l} E_0 = \overline{(B1 + A_0) (C_3 / C_{1-1})} \\ E_{IM} = E_{IPD} = E_{IAD} = \overline{(C_3 / C_{1-2}) + B1} \\ E_L = \overline{[(C_3 / C_{1-1}) + B1] [B2]} \\ E_2 = \overline{(C_2 / C_1) (B1)} \end{array} \right.$$

FIG. 29D

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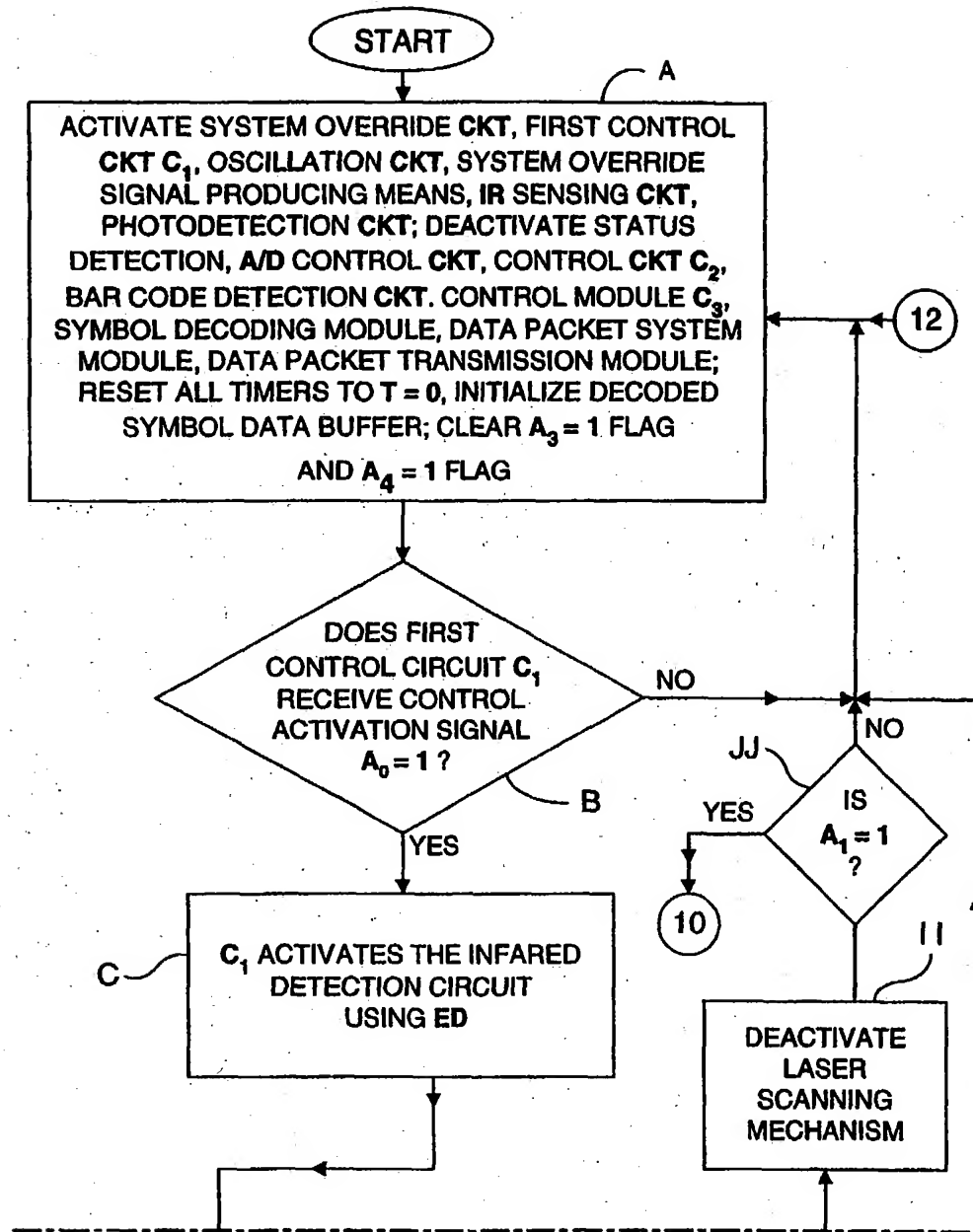


FIG. 30A1

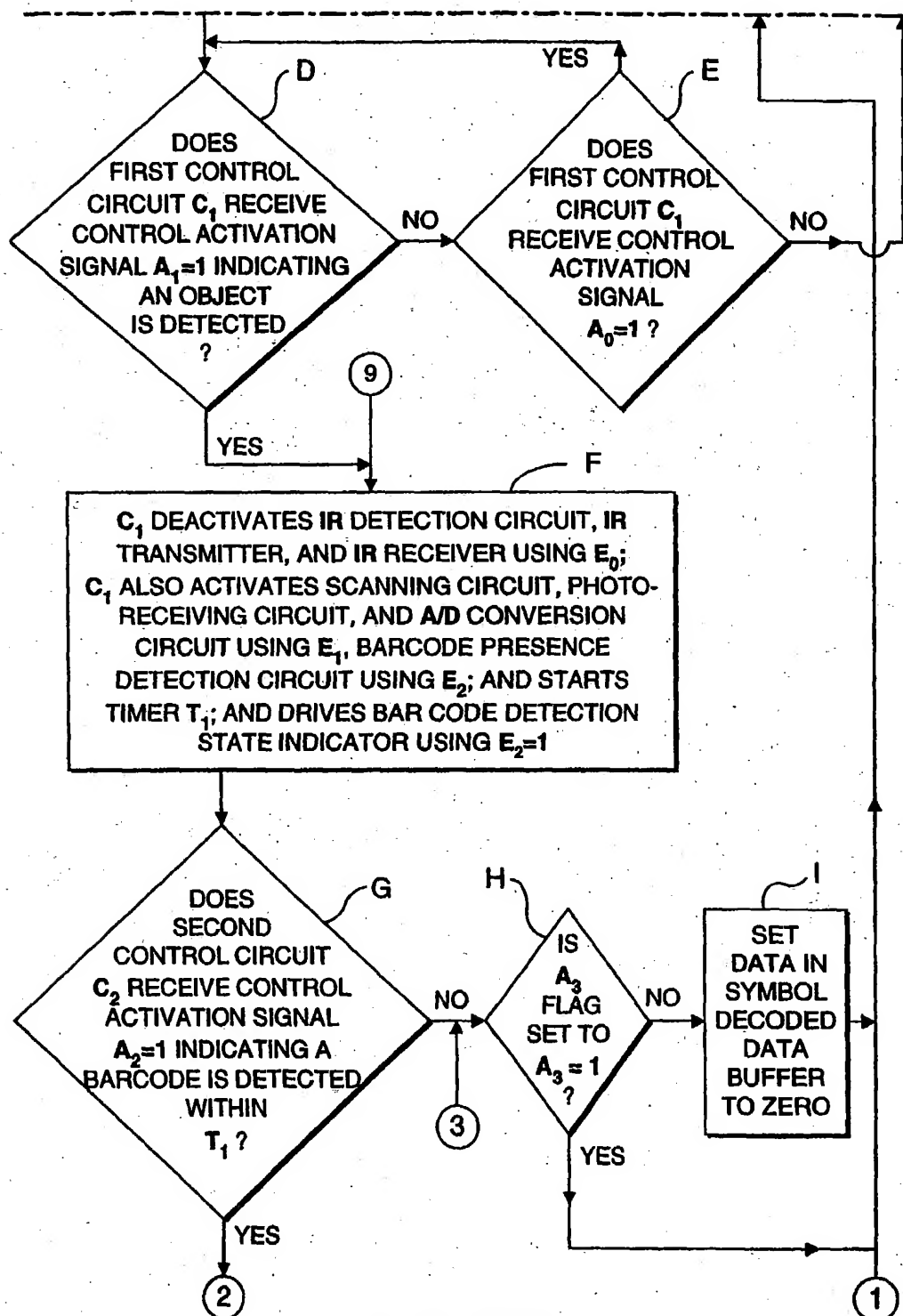


FIG. 30A2



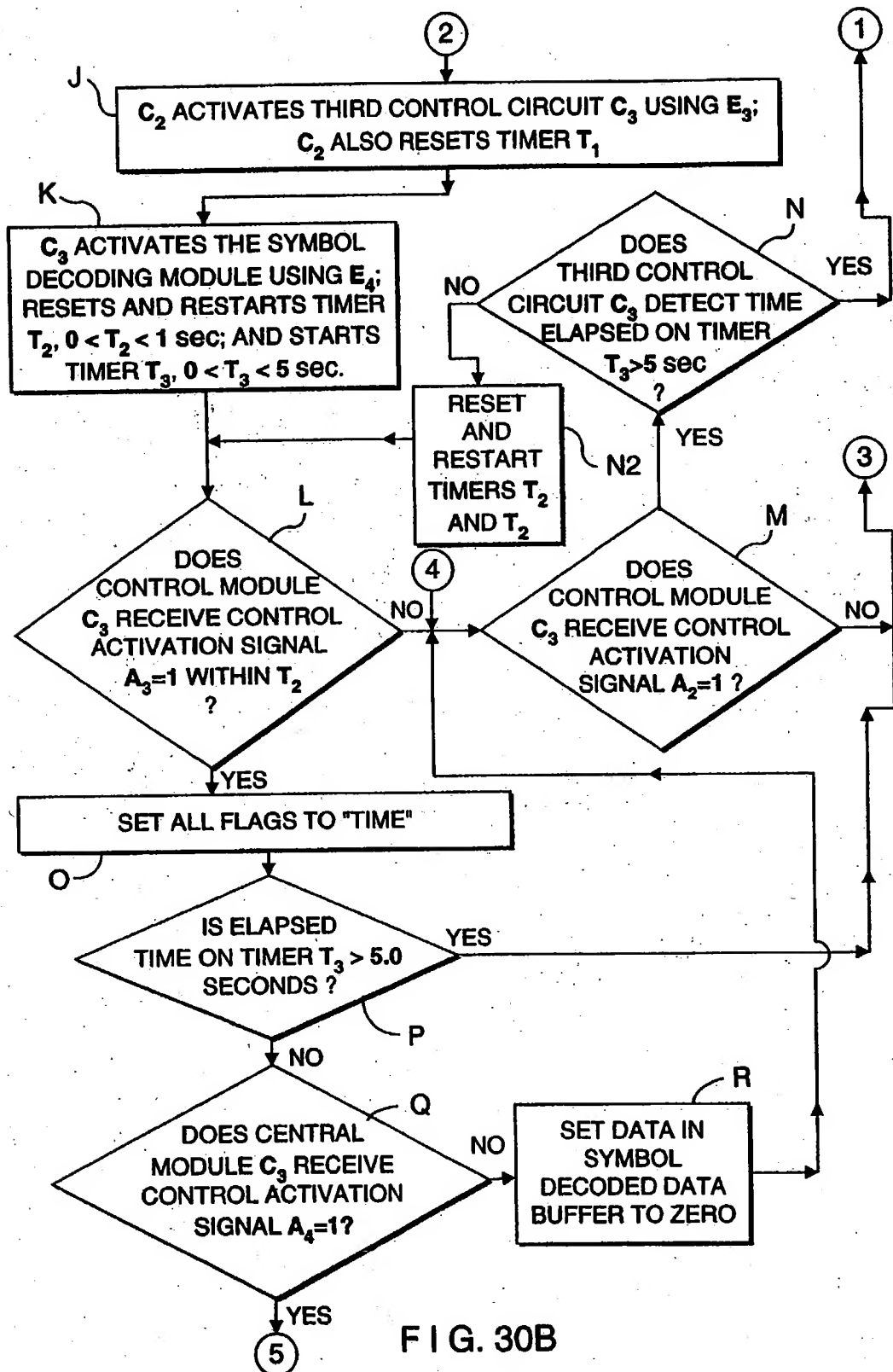


FIG. 30B

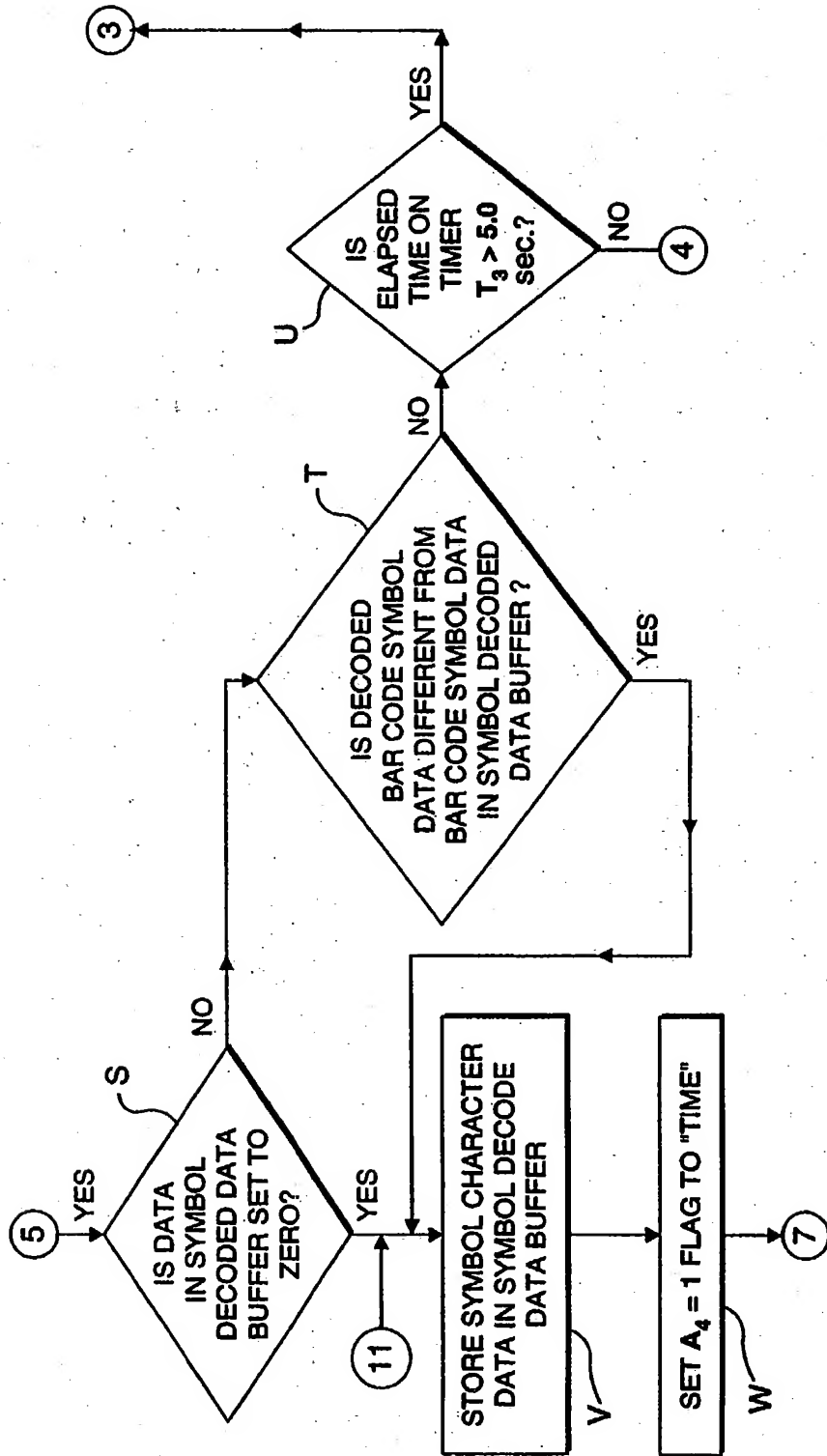


FIG. 30C

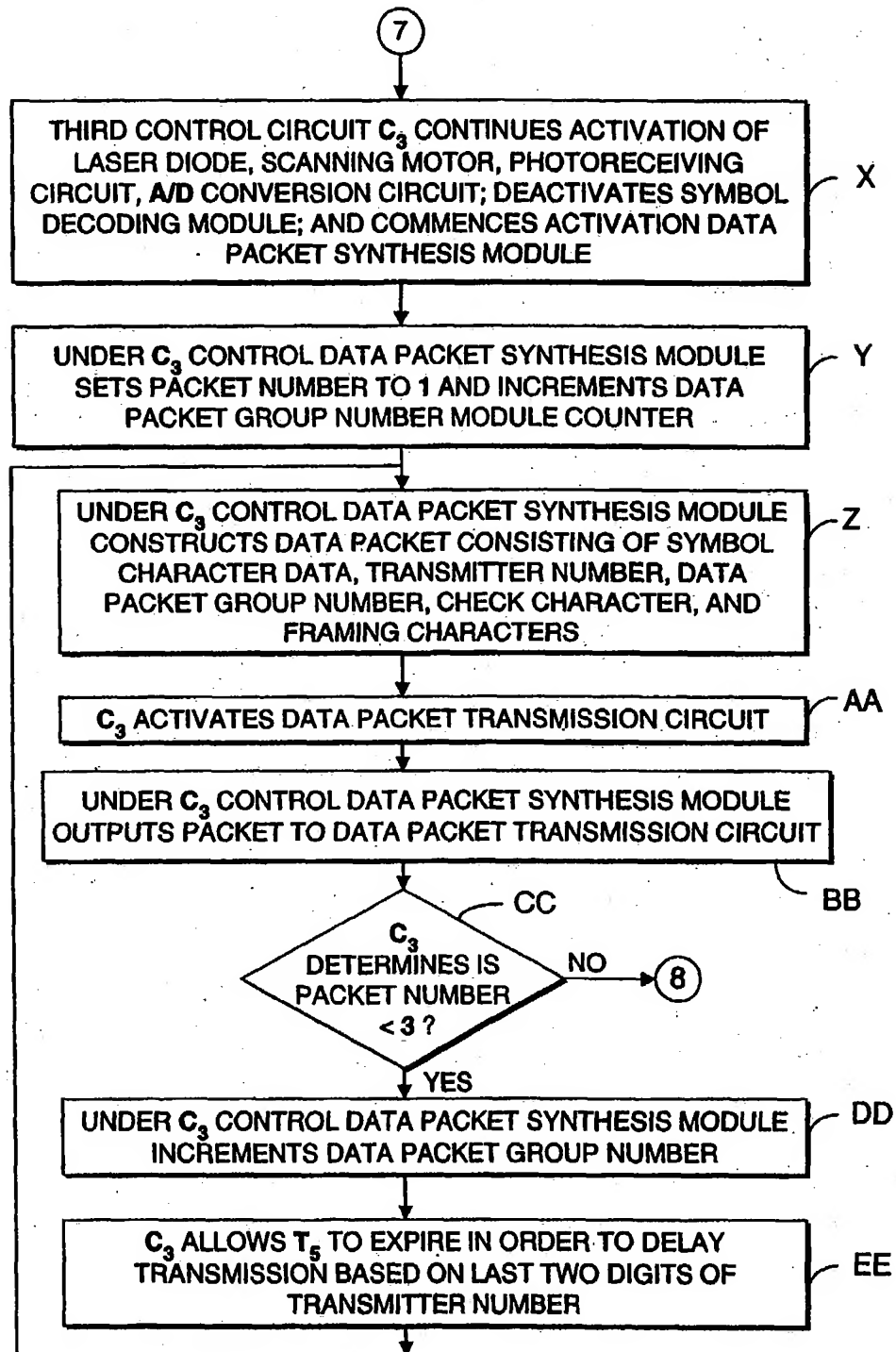


FIG. 30D

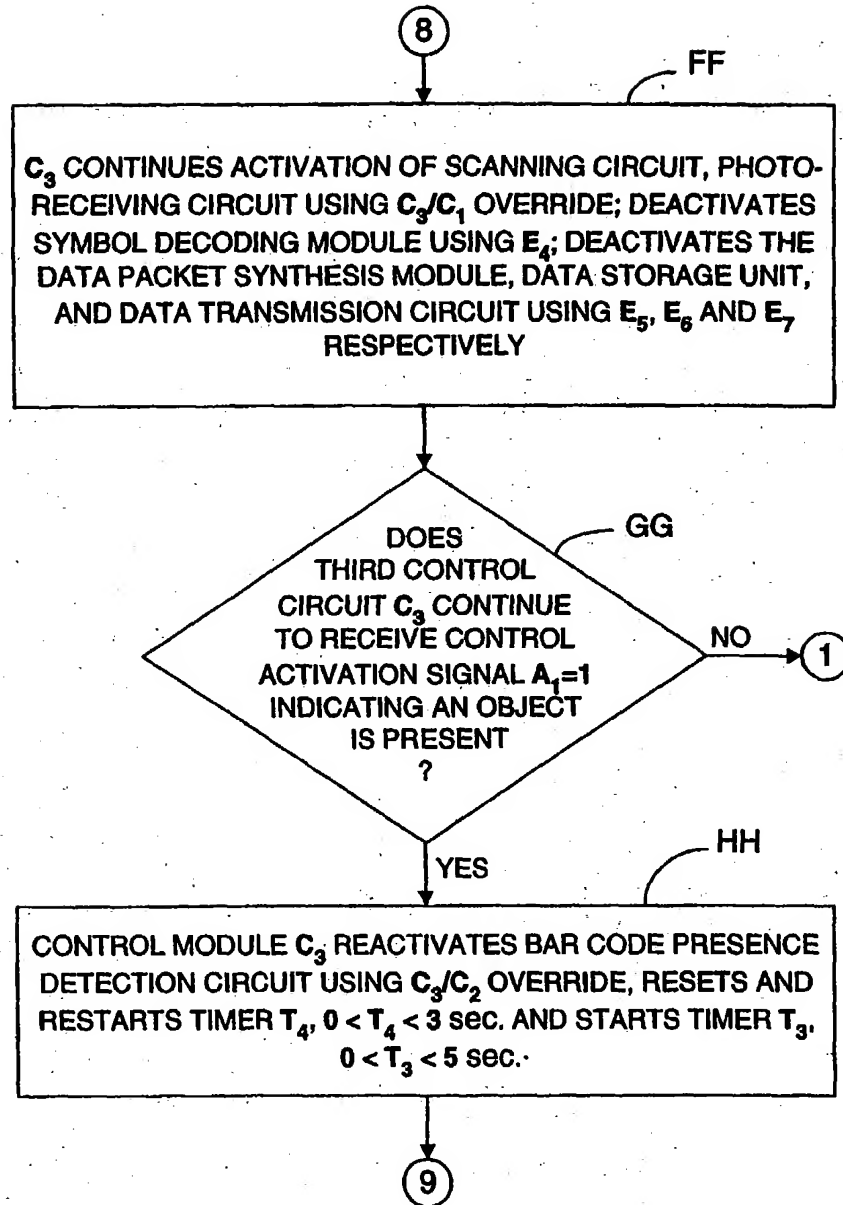


FIG. 30E

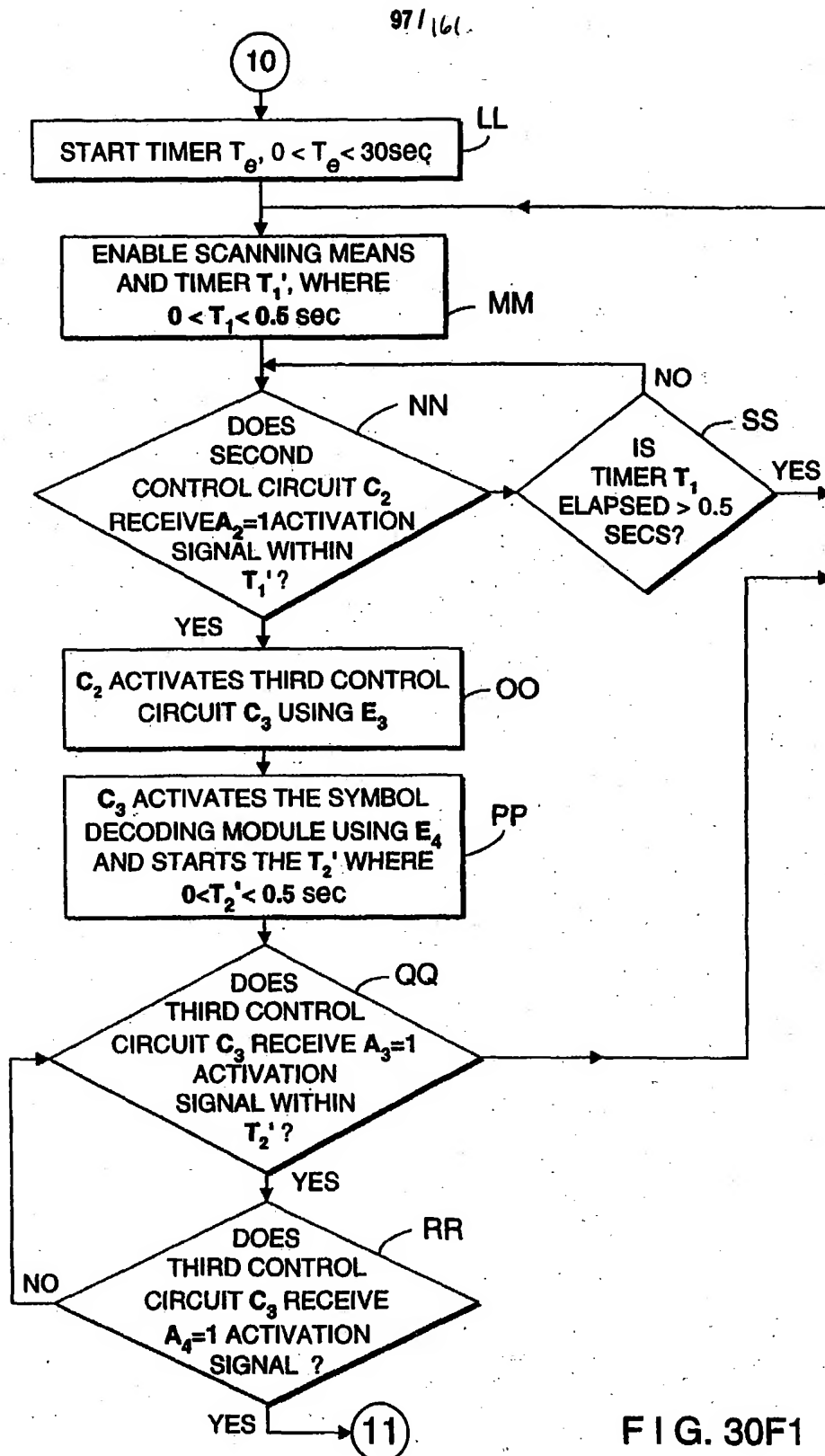
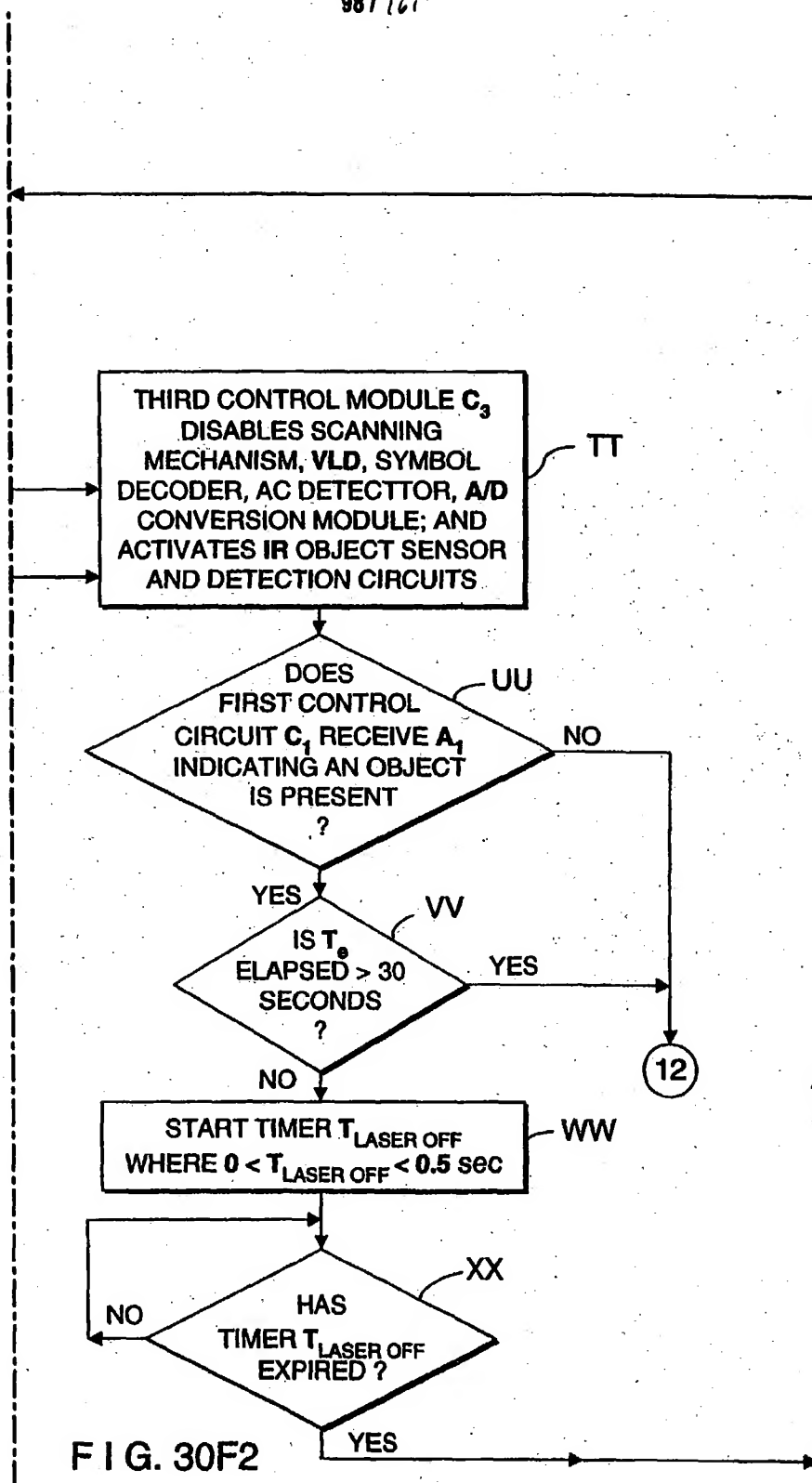


FIG. 30F1



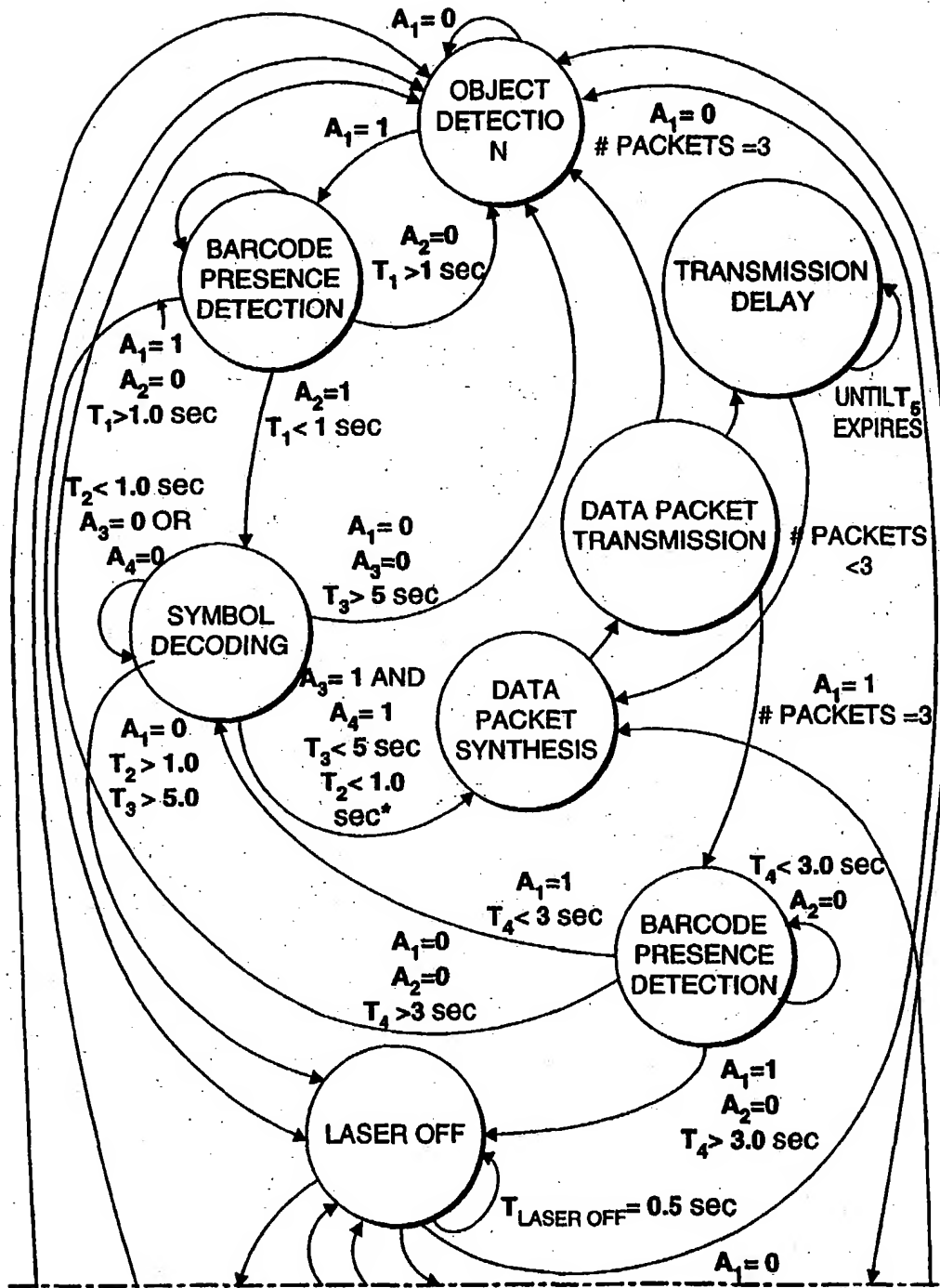
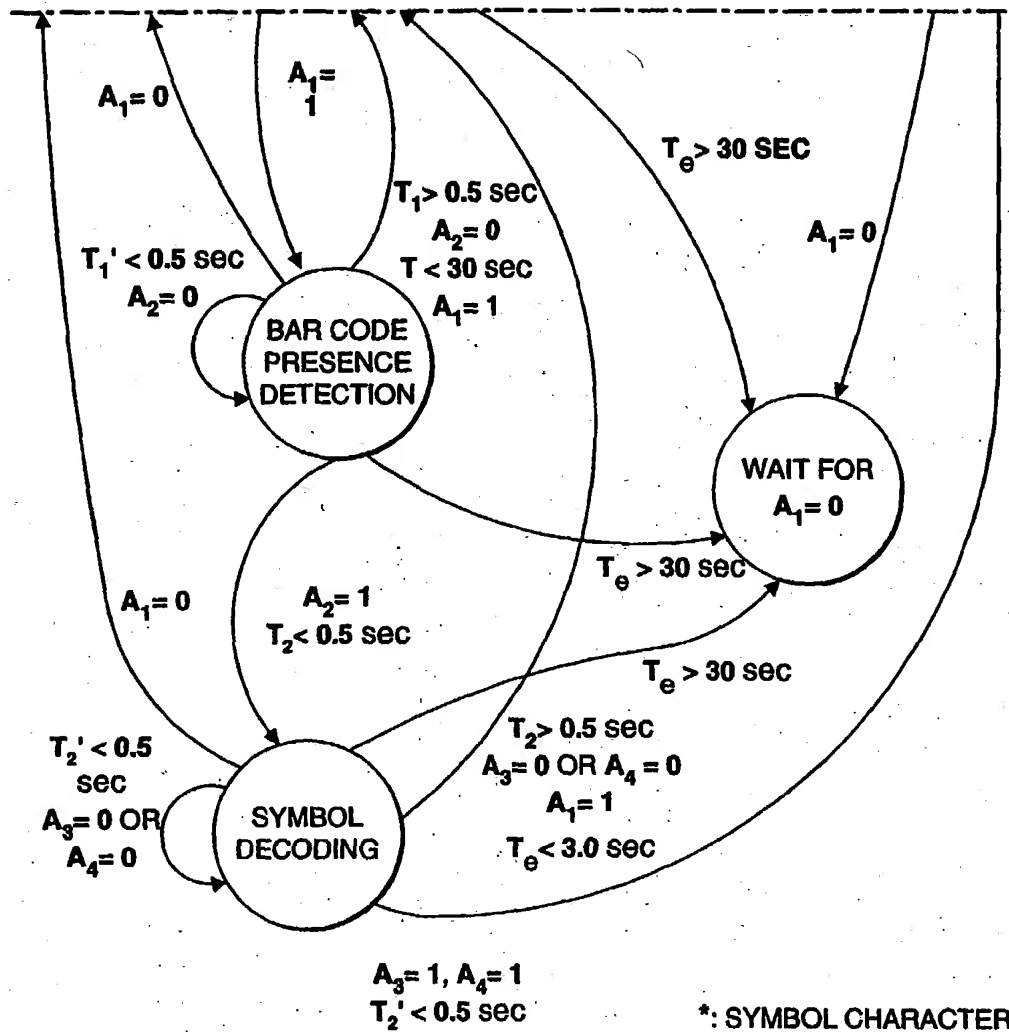


FIG. 31A



\*: SYMBOL CHARACTER  
DATA IS DIFFERENT  
THAN DATA ELEMENT IN  
DECODED SYMBOL  
DATA BUFFER

FIG. 31B



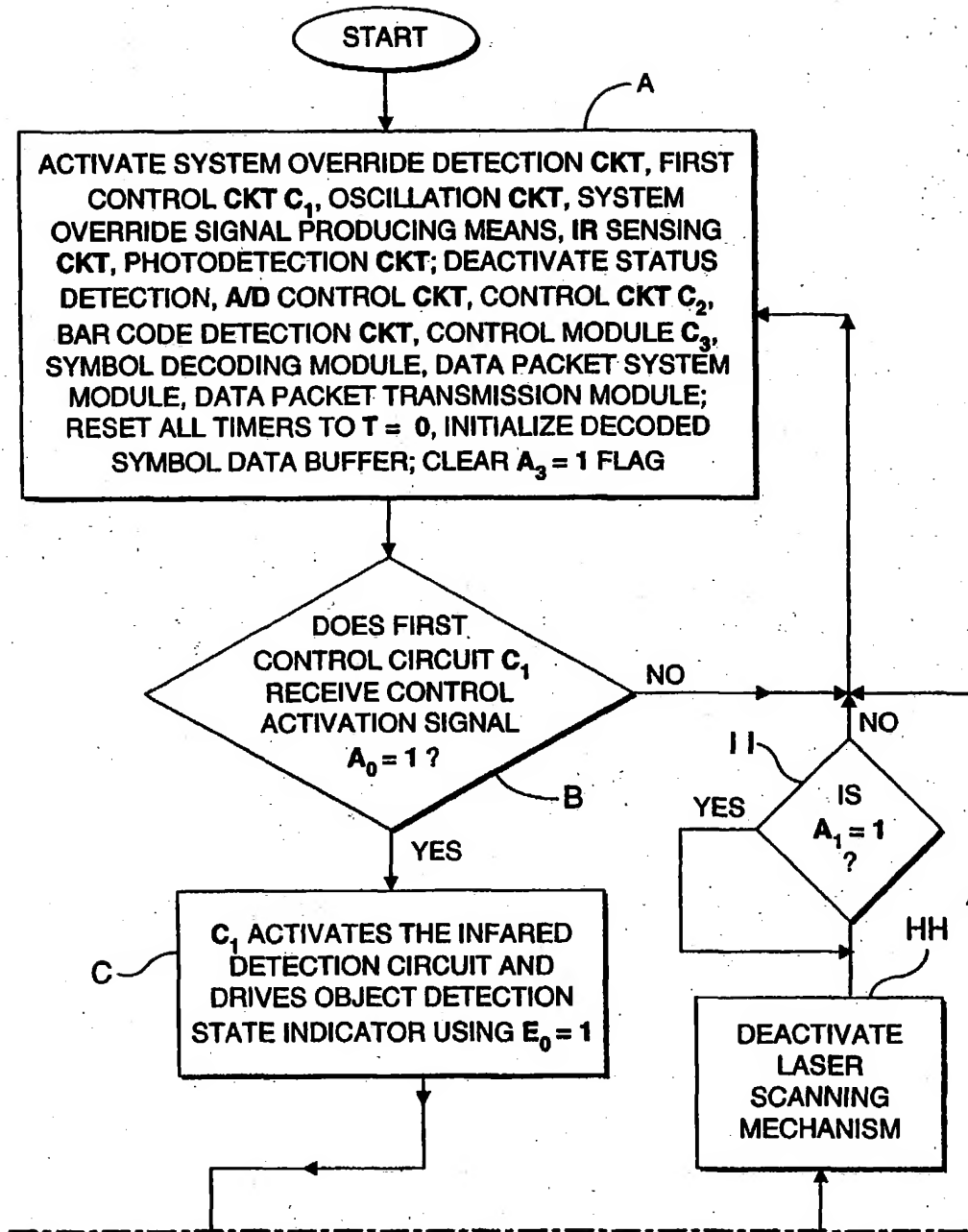


FIG. 32A1

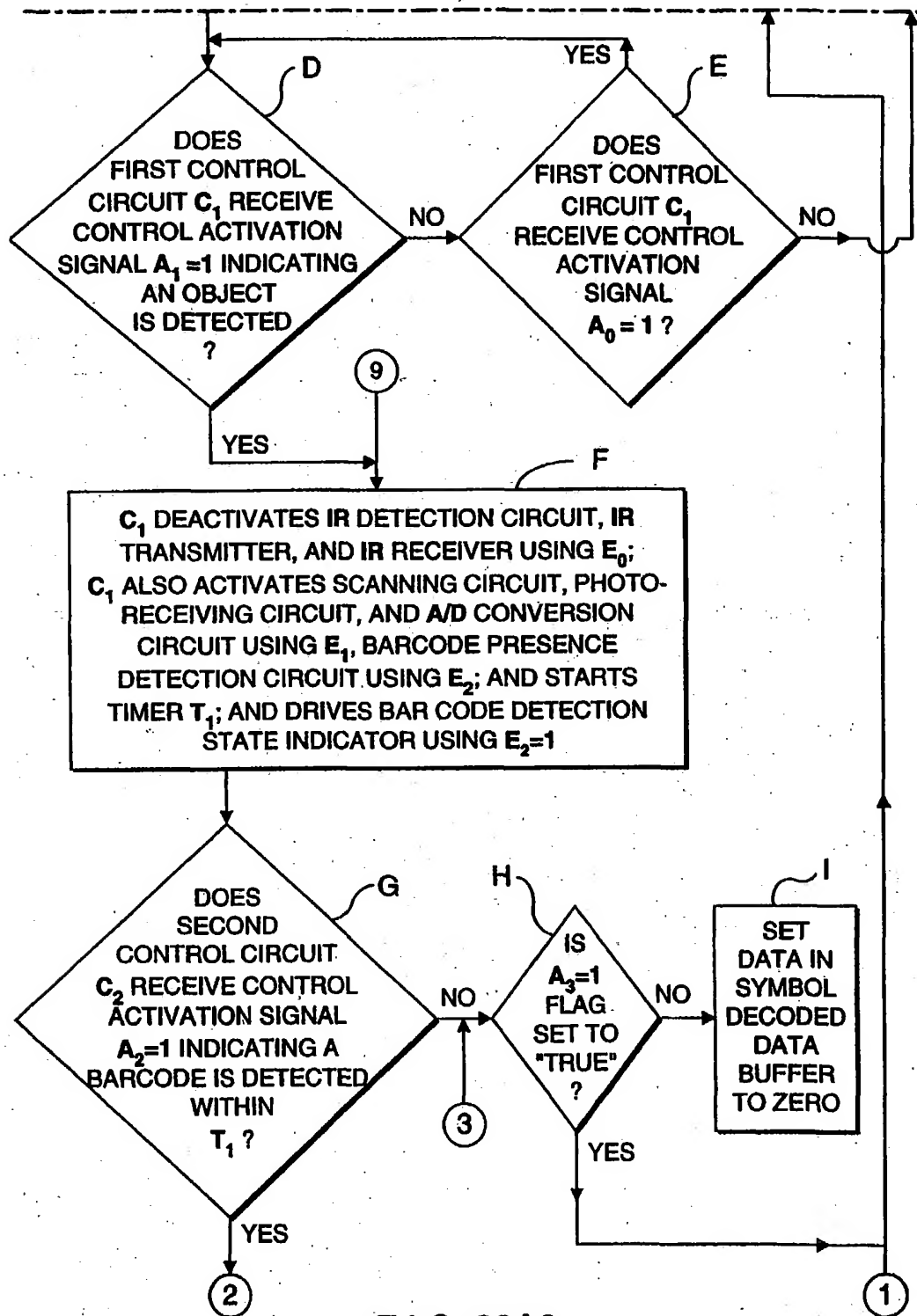
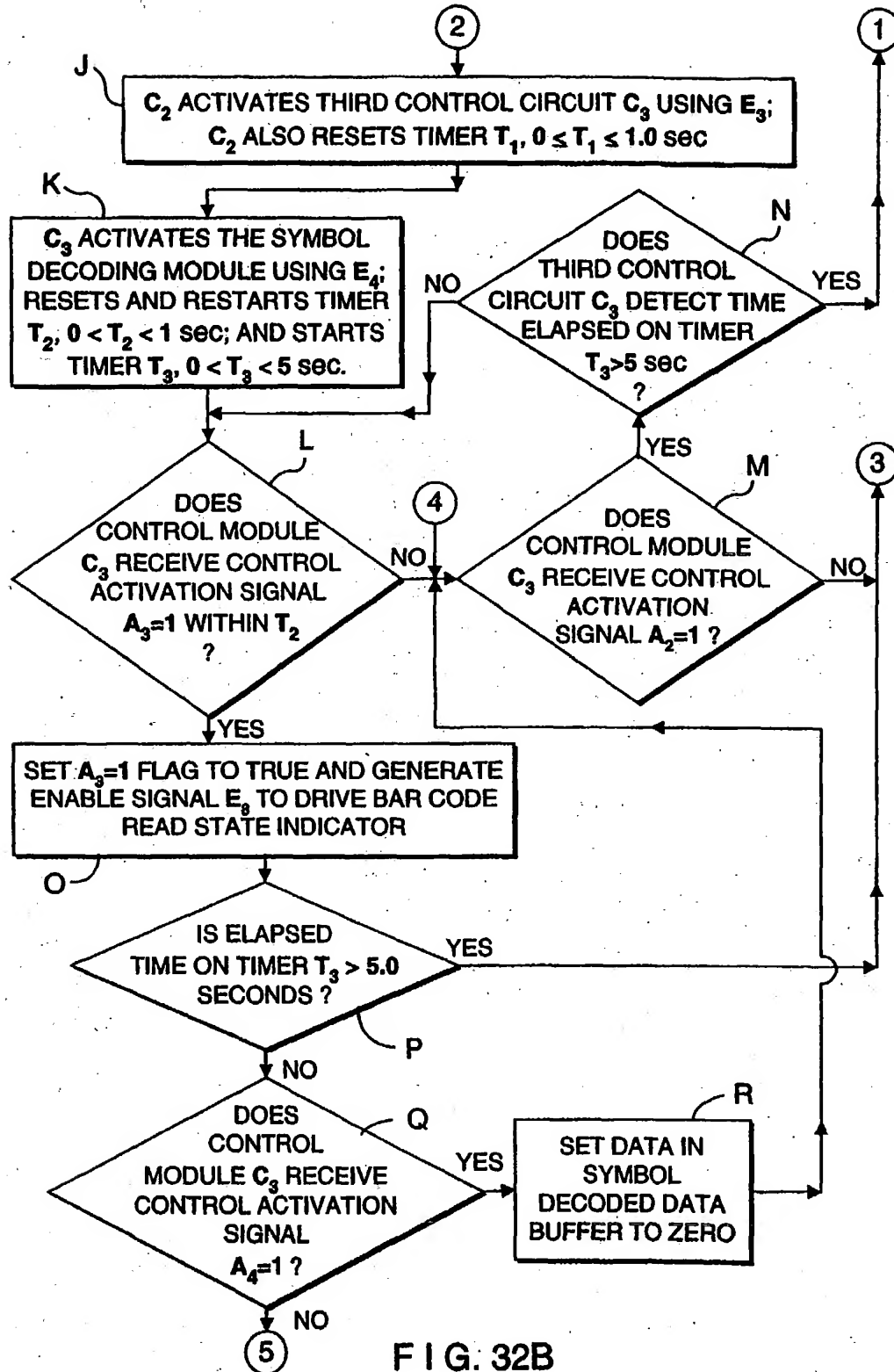


FIG. 32A2



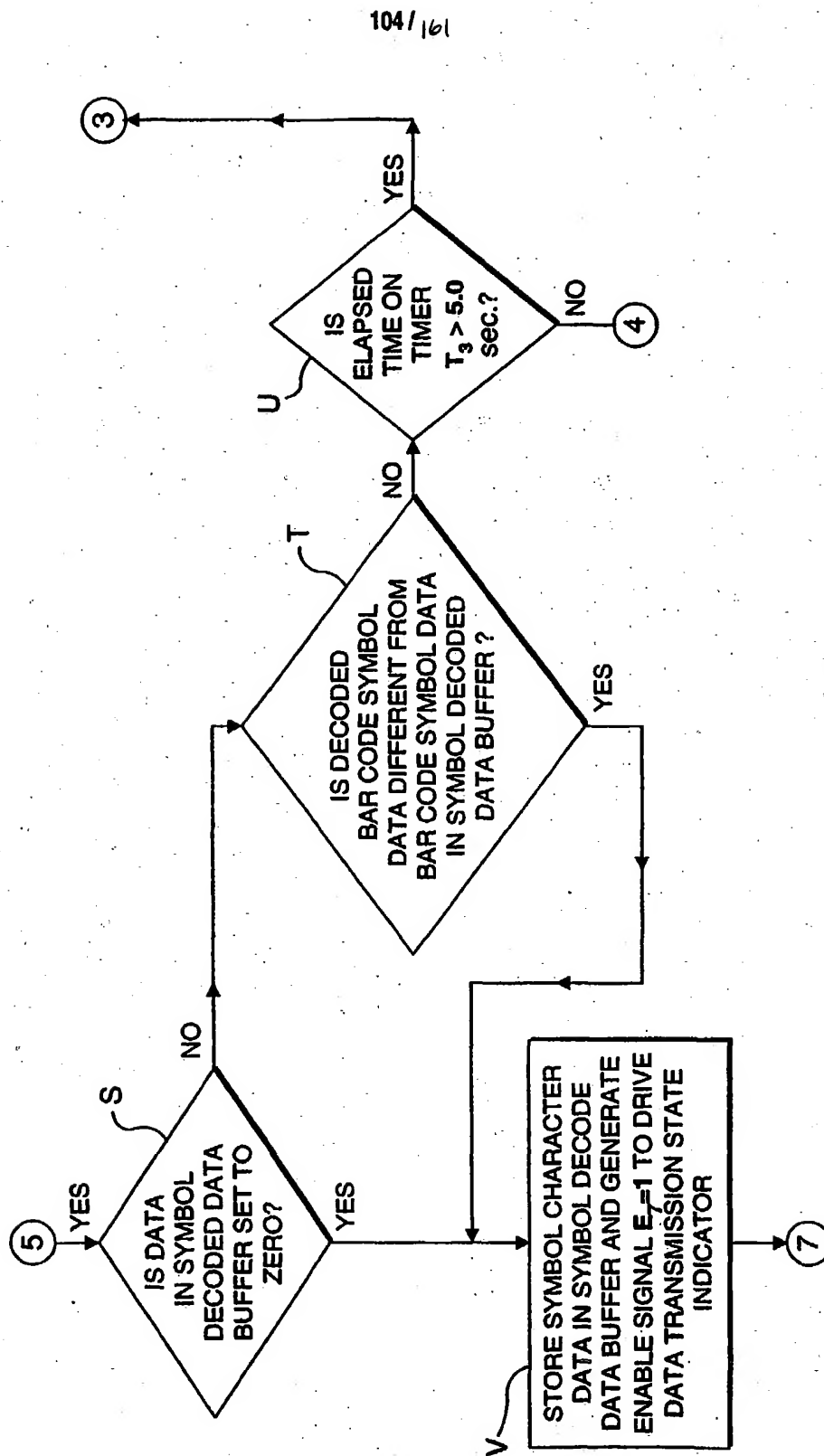


FIG. 32C

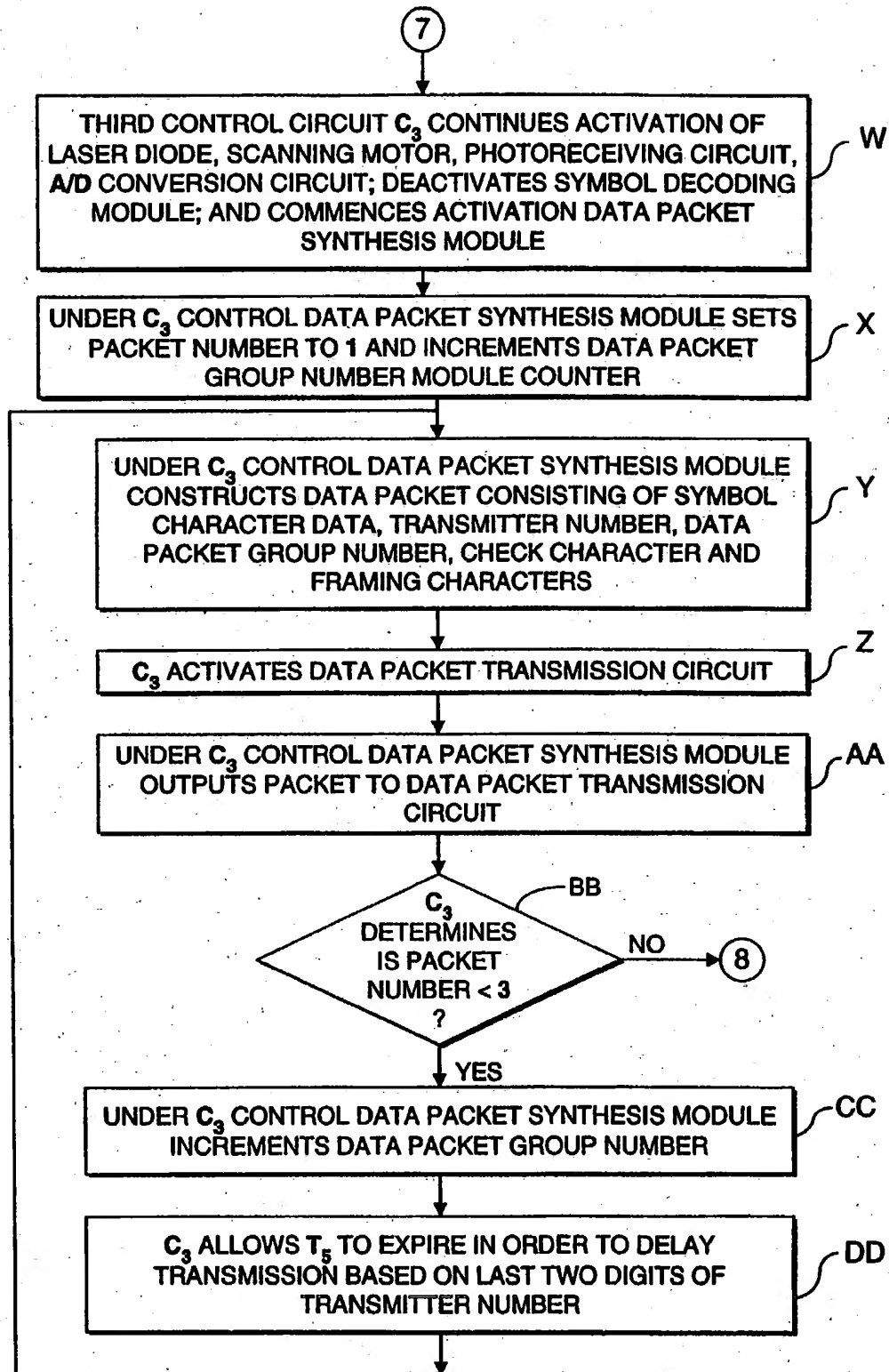


FIG. 32D

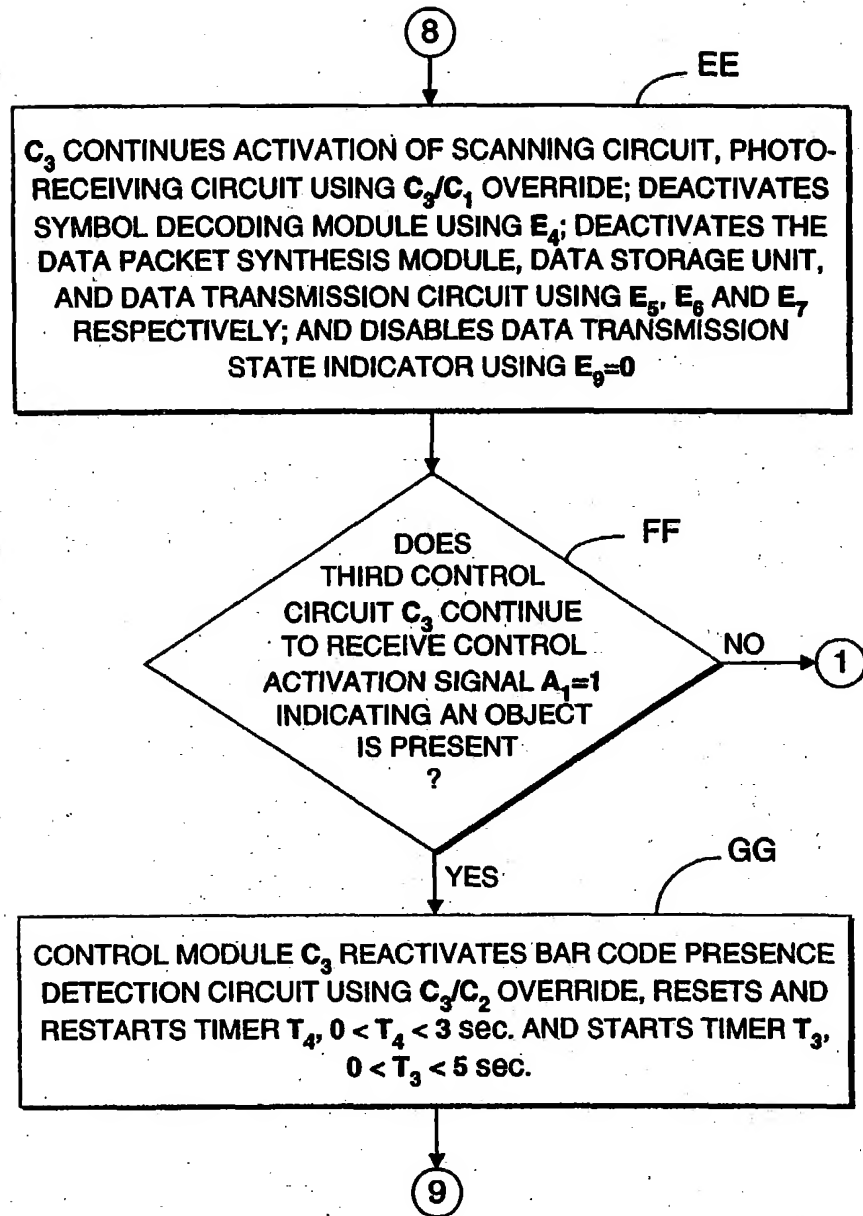


FIG. 32E

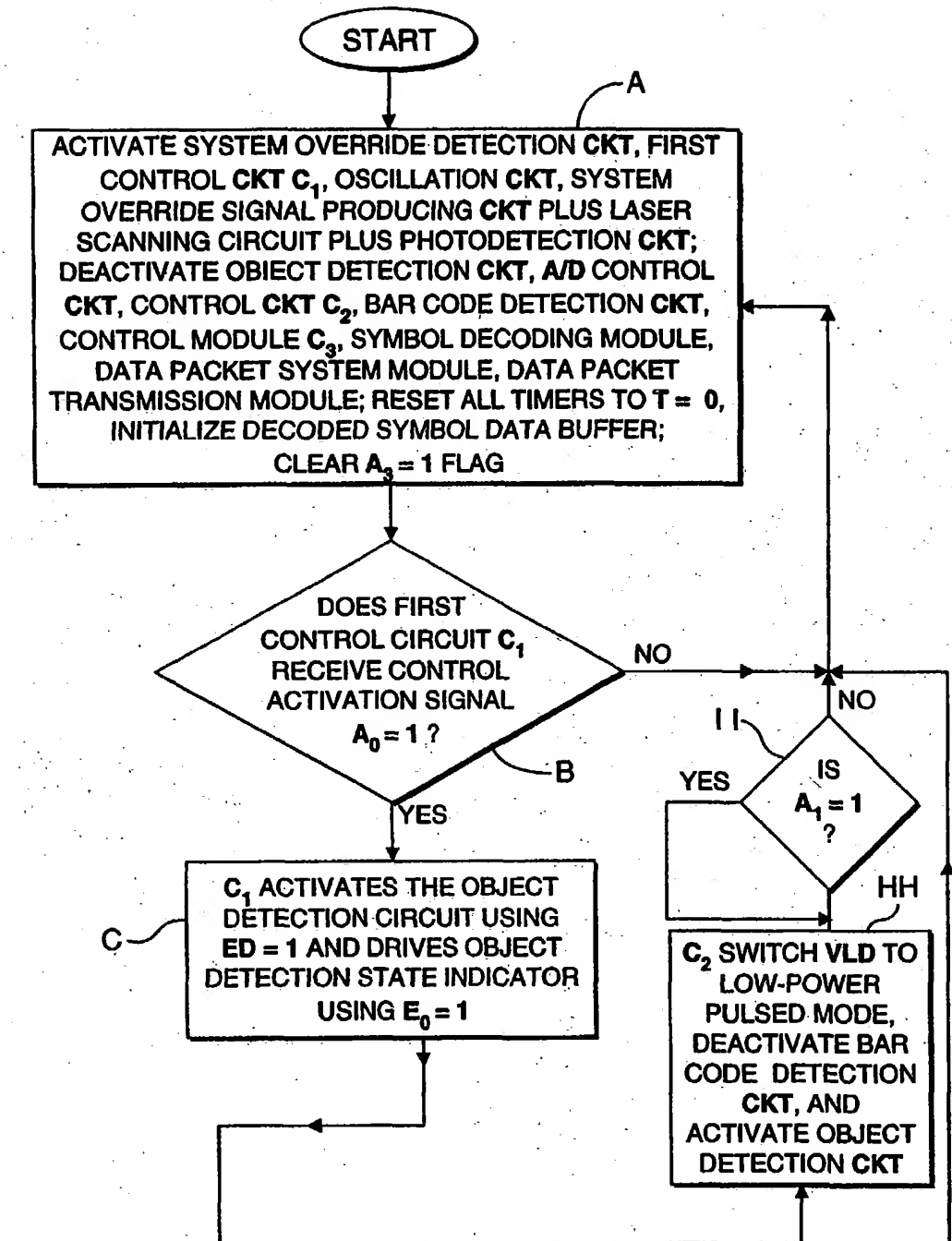


FIG. 33A1

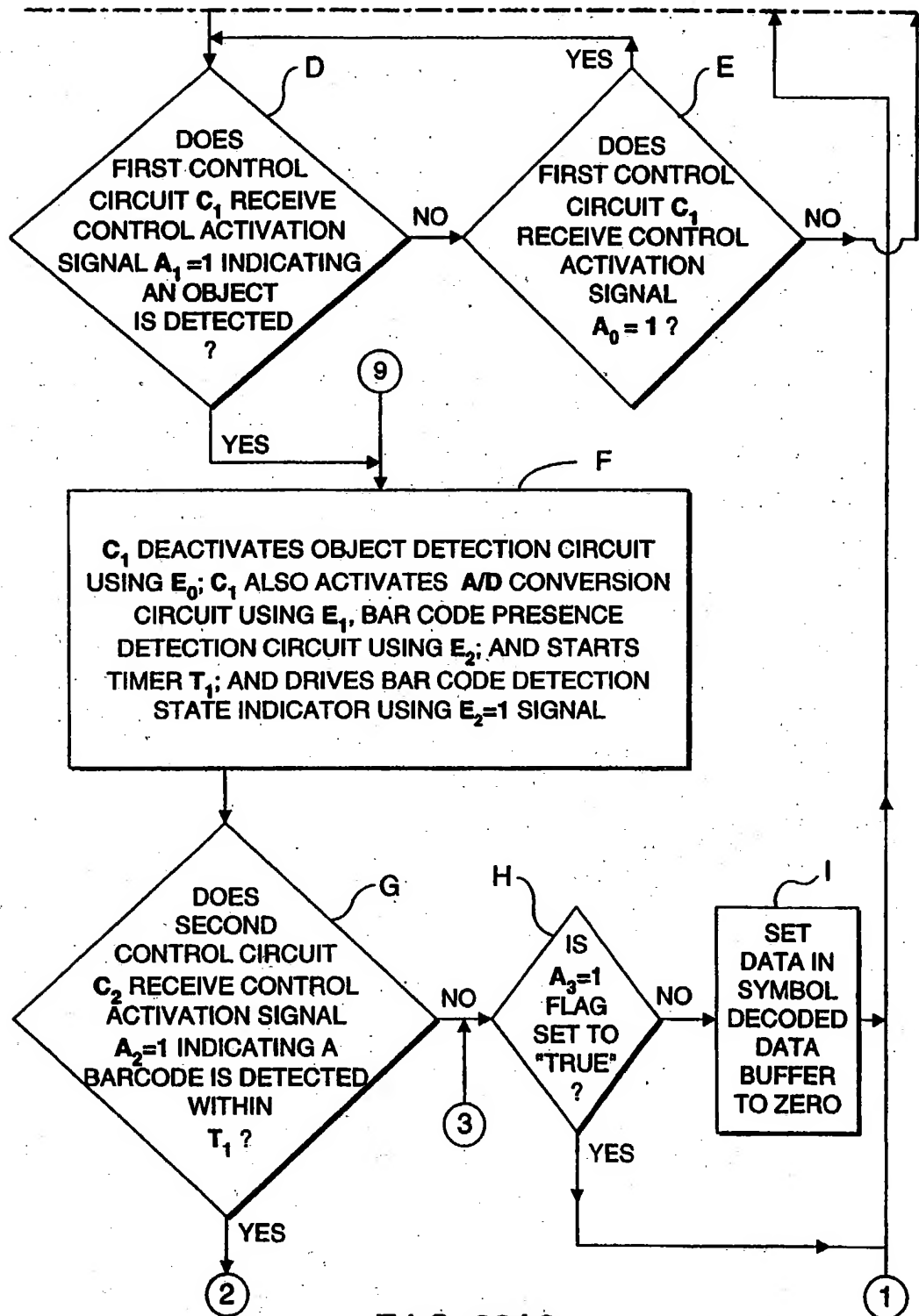


FIG. 33A2



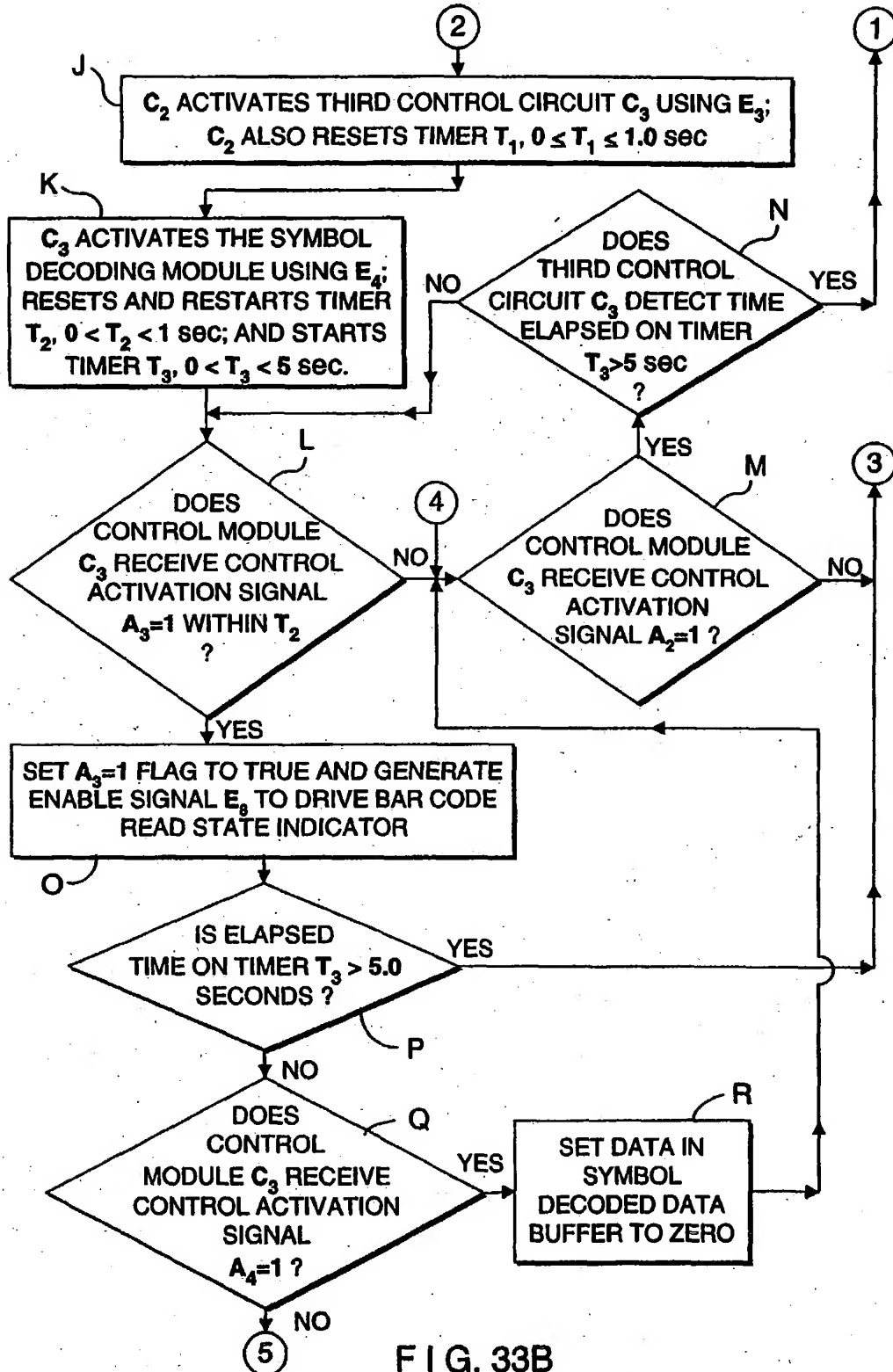
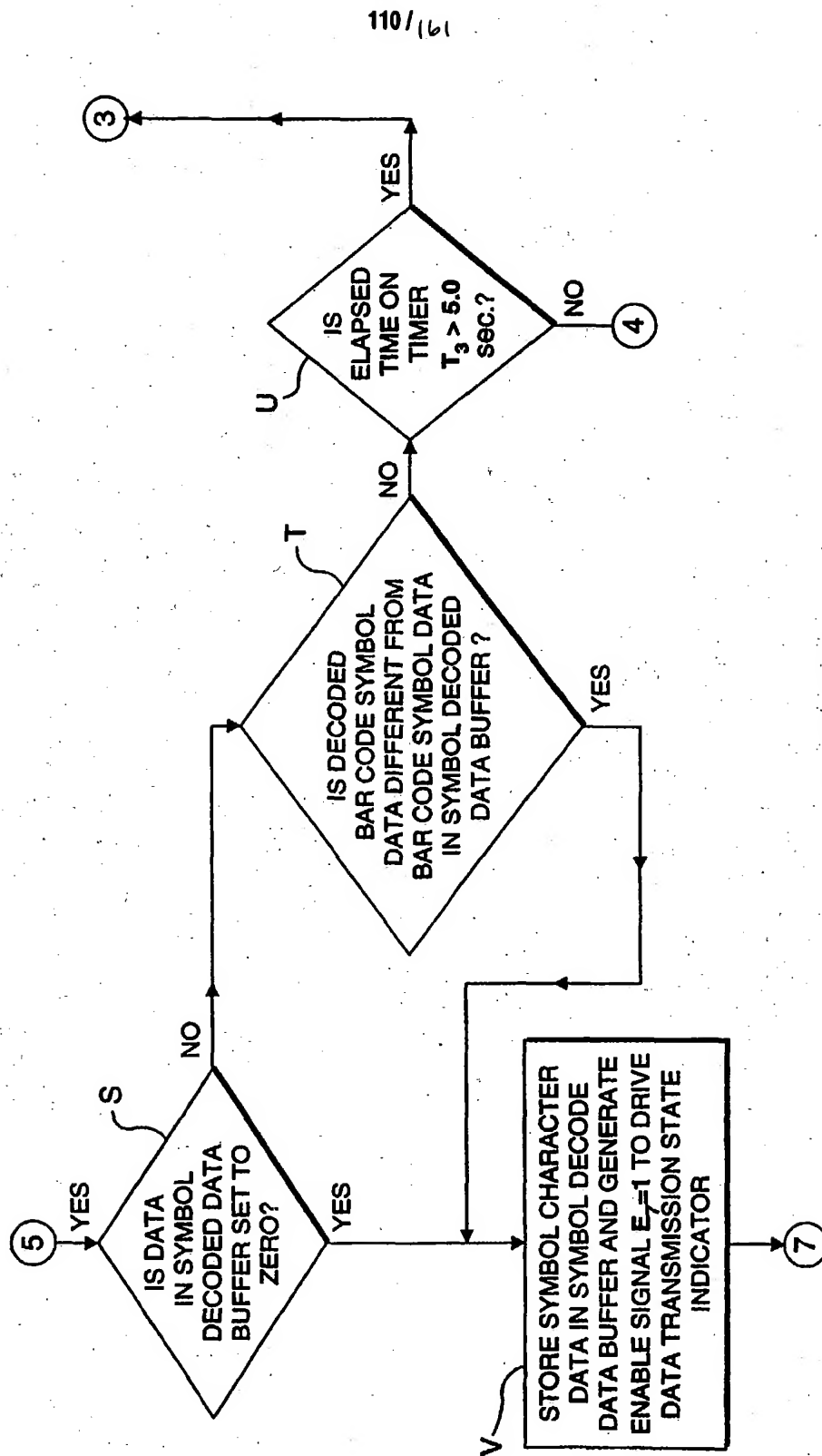


FIG. 33B



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7

THIRD CONTROL CIRCUIT  $C_3$  CONTINUES ACTIVATION OF LASER DIODE, SCANNING MOTOR, PHOTORECEIVING CIRCUIT, A/D CONVERSION CIRCUIT; DEACTIVATES SYMBOL DECODING MODULE; AND COMMENCES ACTIVATION DATA PACKET SYNTHESIS MODULE W

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE SETS PACKET NUMBER TO 1 AND INCREMENTS DATA PACKET GROUP NUMBER MODULE COUNTER X

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE CONSTRUCTS DATA PACKET CONSISTING OF SYMBOL CHARACTER DATA, TRANSMITTER NUMBER, DATA PACKET GROUP NUMBER, CHECK CHARACTER AND FRAMING CHARACTERS Y

$C_3$  ACTIVATES DATA PACKET TRANSMISSION CIRCUIT Z

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE OUTPUTS PACKET TO DATA PACKET TRANSMISSION CIRCUIT AA

$C_3$  DETERMINES IS PACKET NUMBER  $< 3$  ? BB

NO → 8

YES

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE INCREMENTS DATA PACKET GROUP NUMBER CC

$C_3$  ALLOWS  $T_5$  TO EXPIRE IN ORDER TO DELAY TRANSMISSION BASED ON LAST TWO DIGITS OF TRANSMITTER NUMBER DD

FIG. 33D

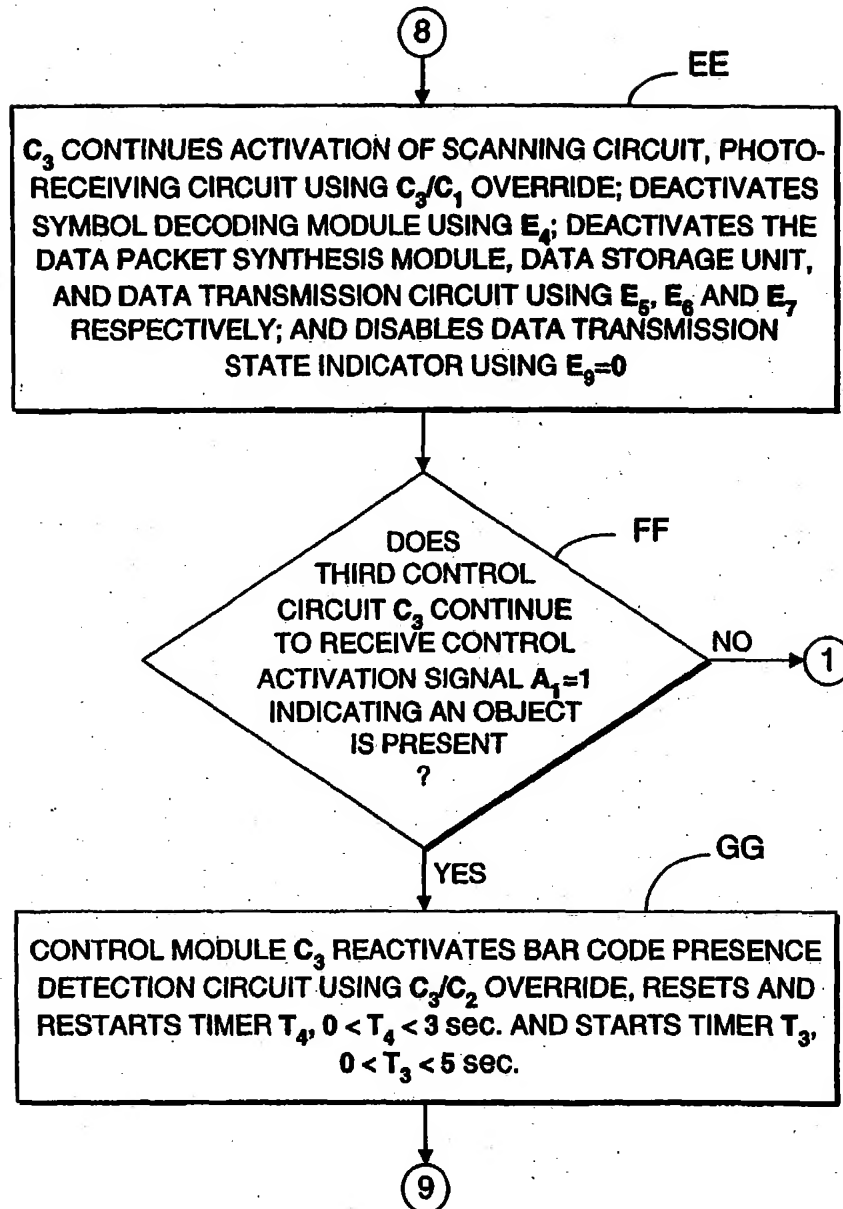
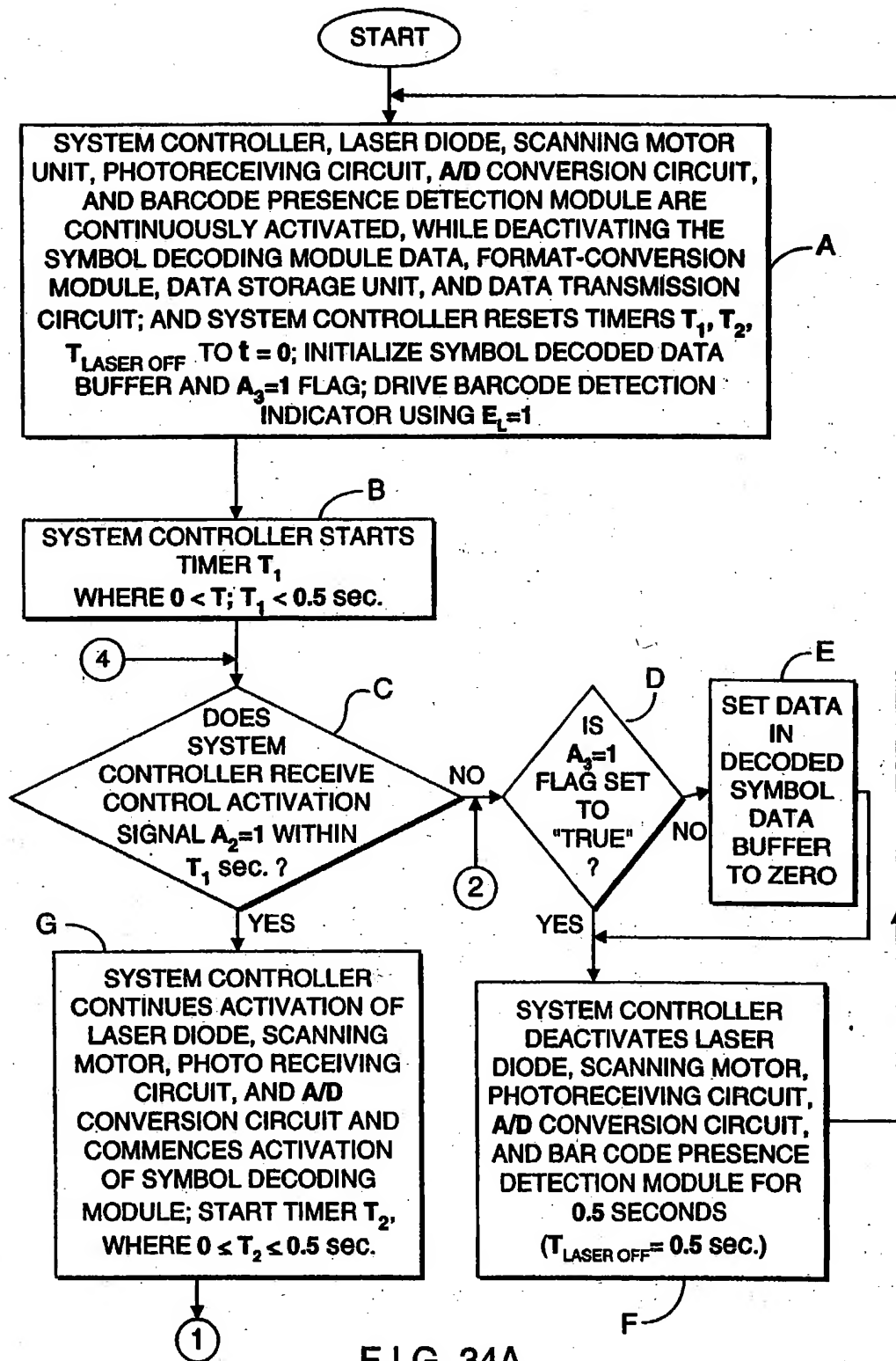


FIG. 33E



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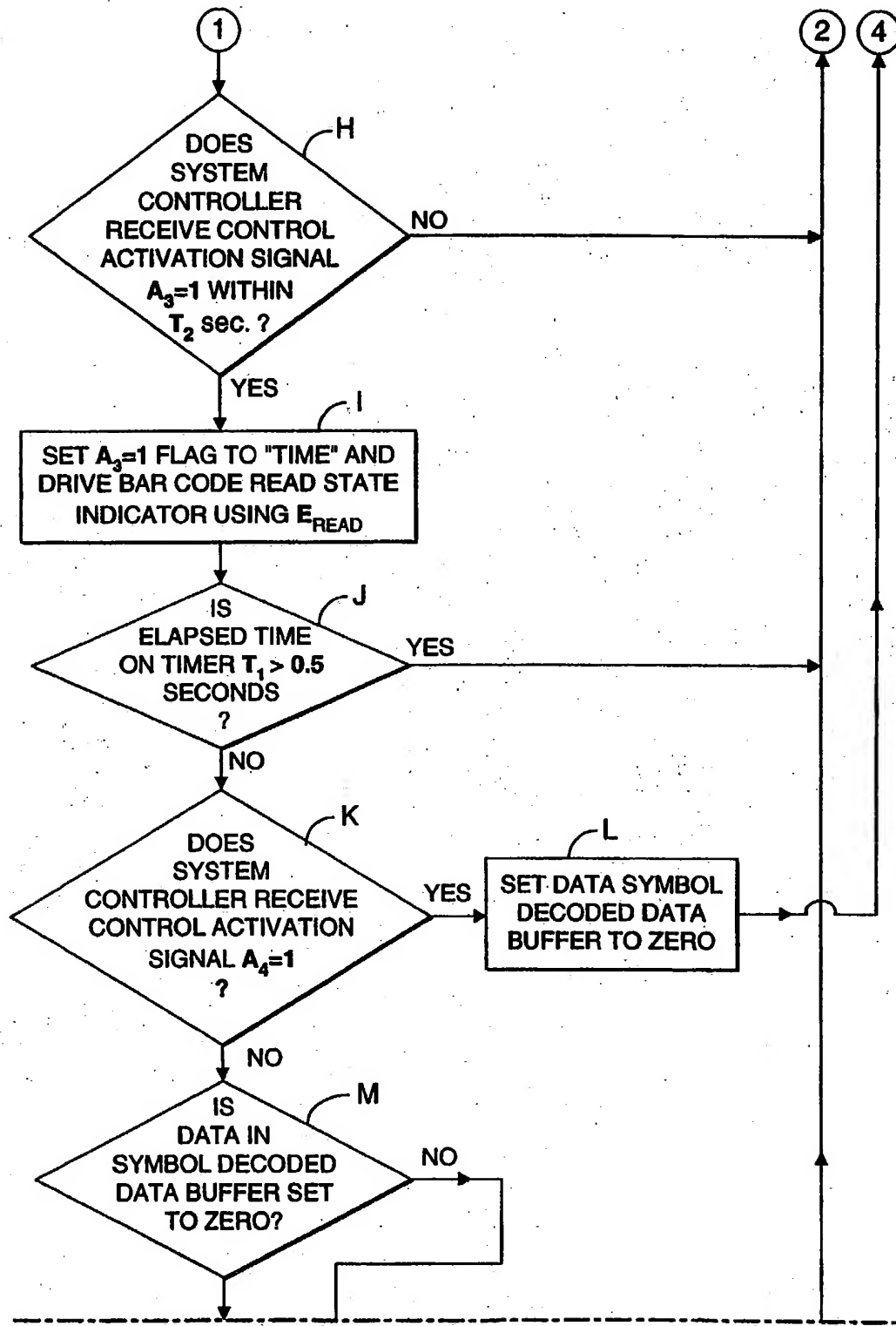


FIG. 34B1

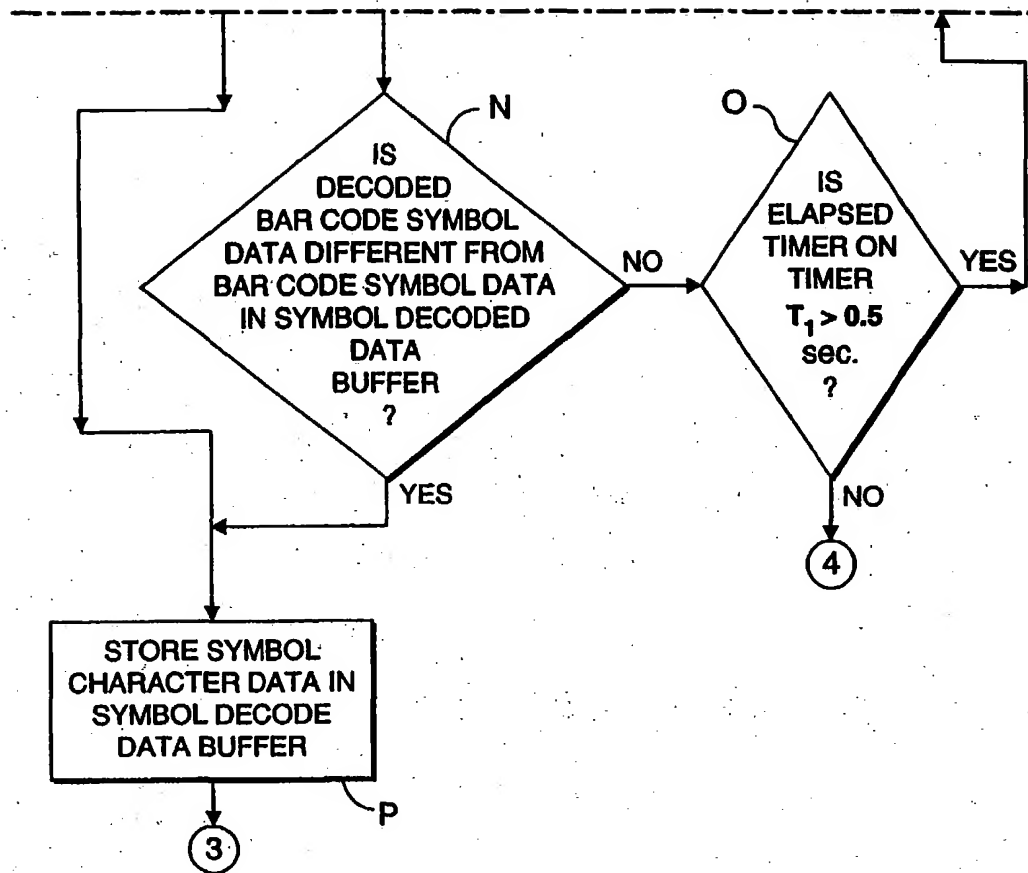


FIG. 34B2

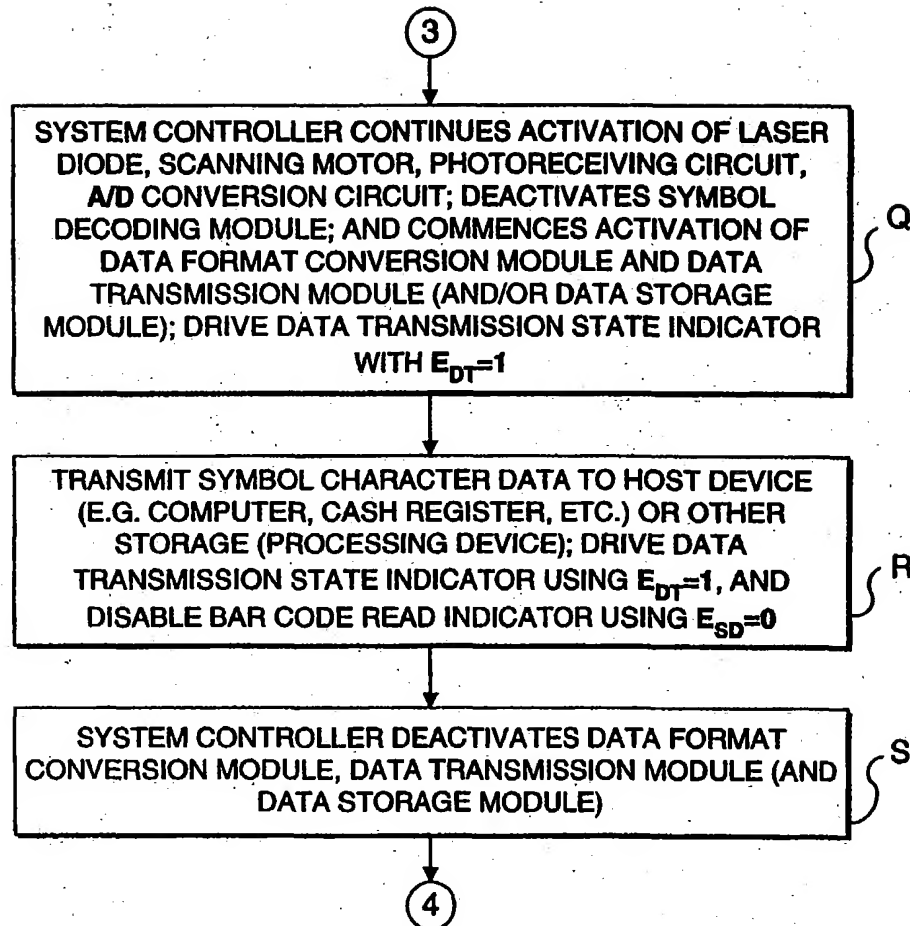


FIG. 34C



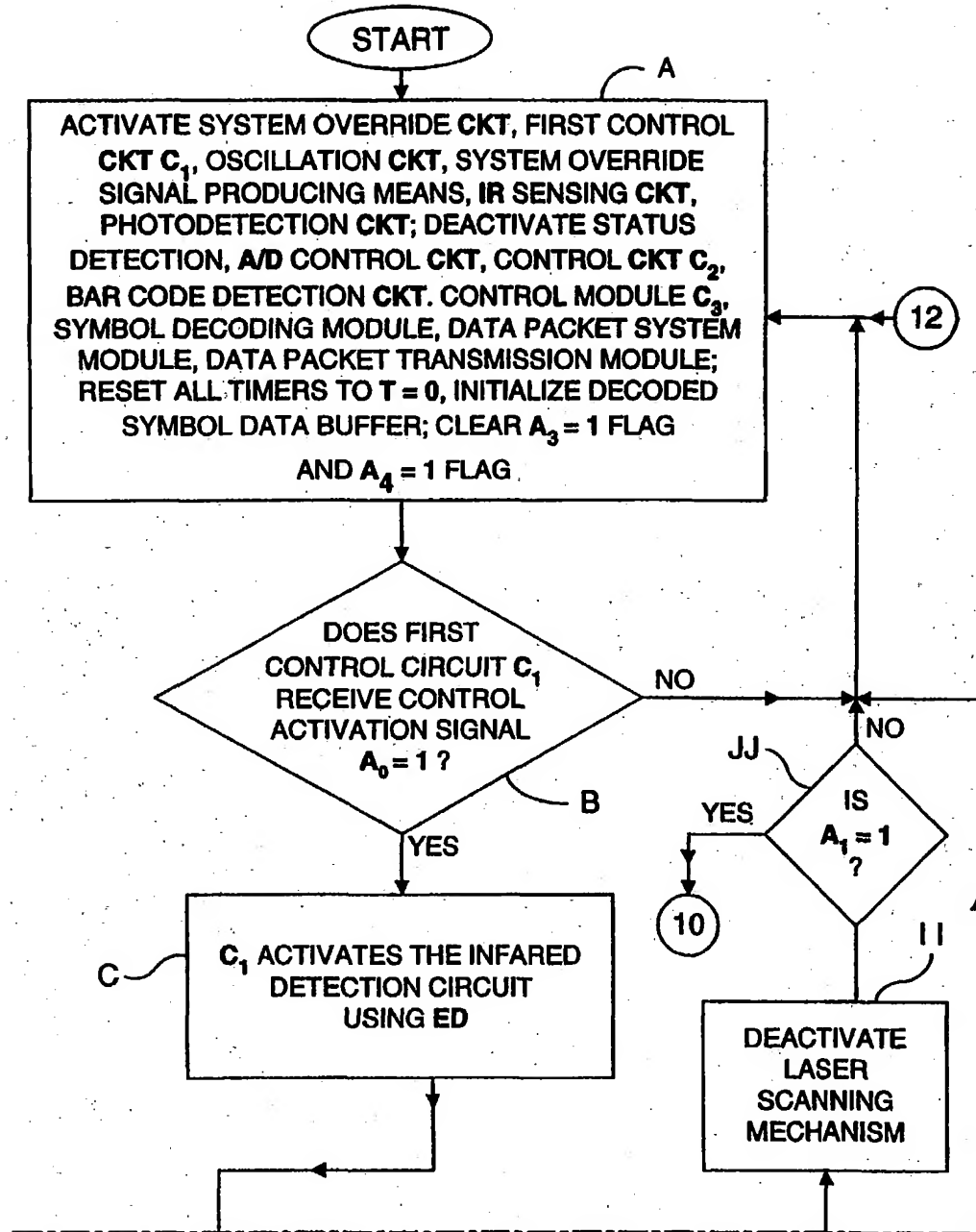


FIG. 35A1

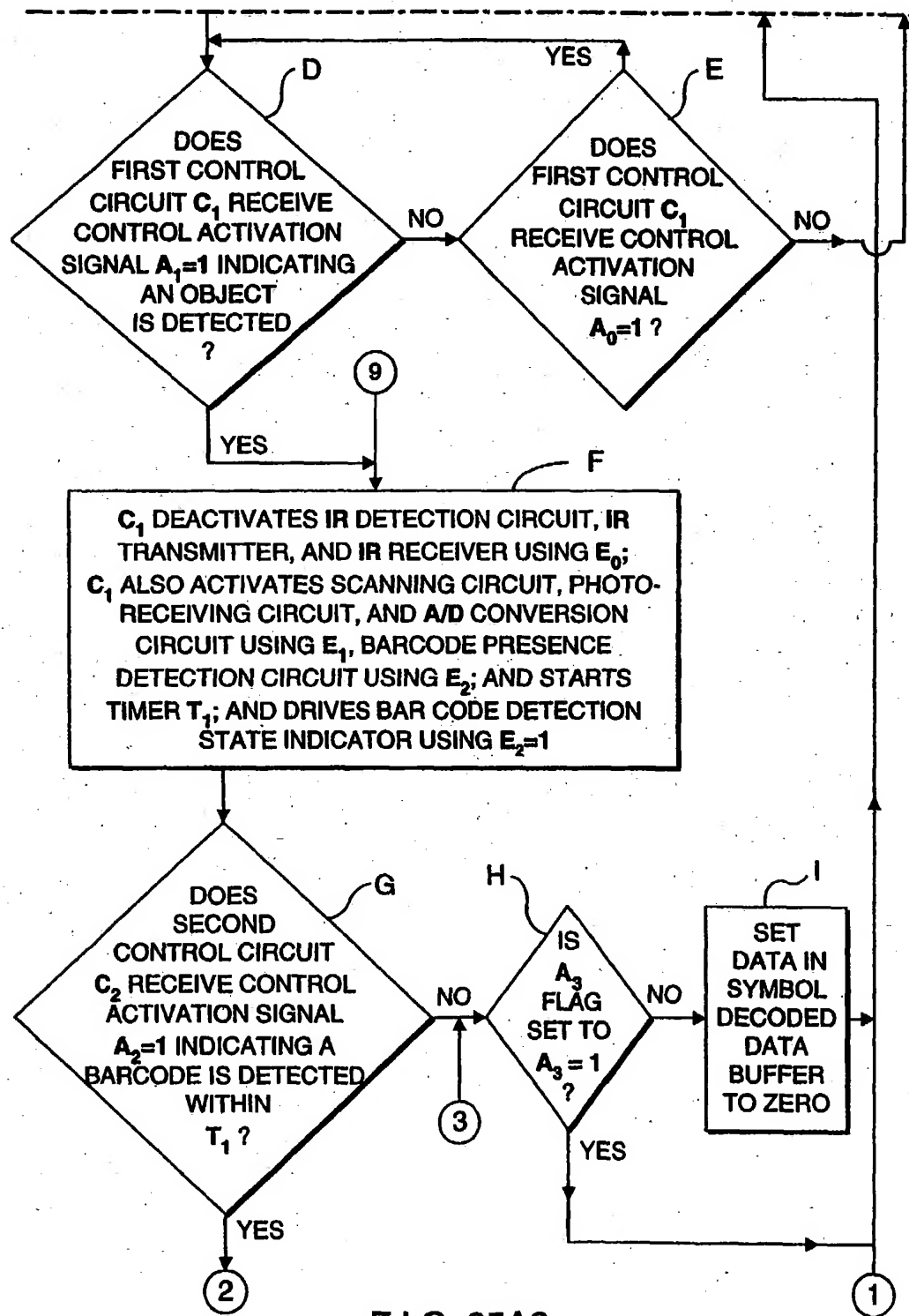
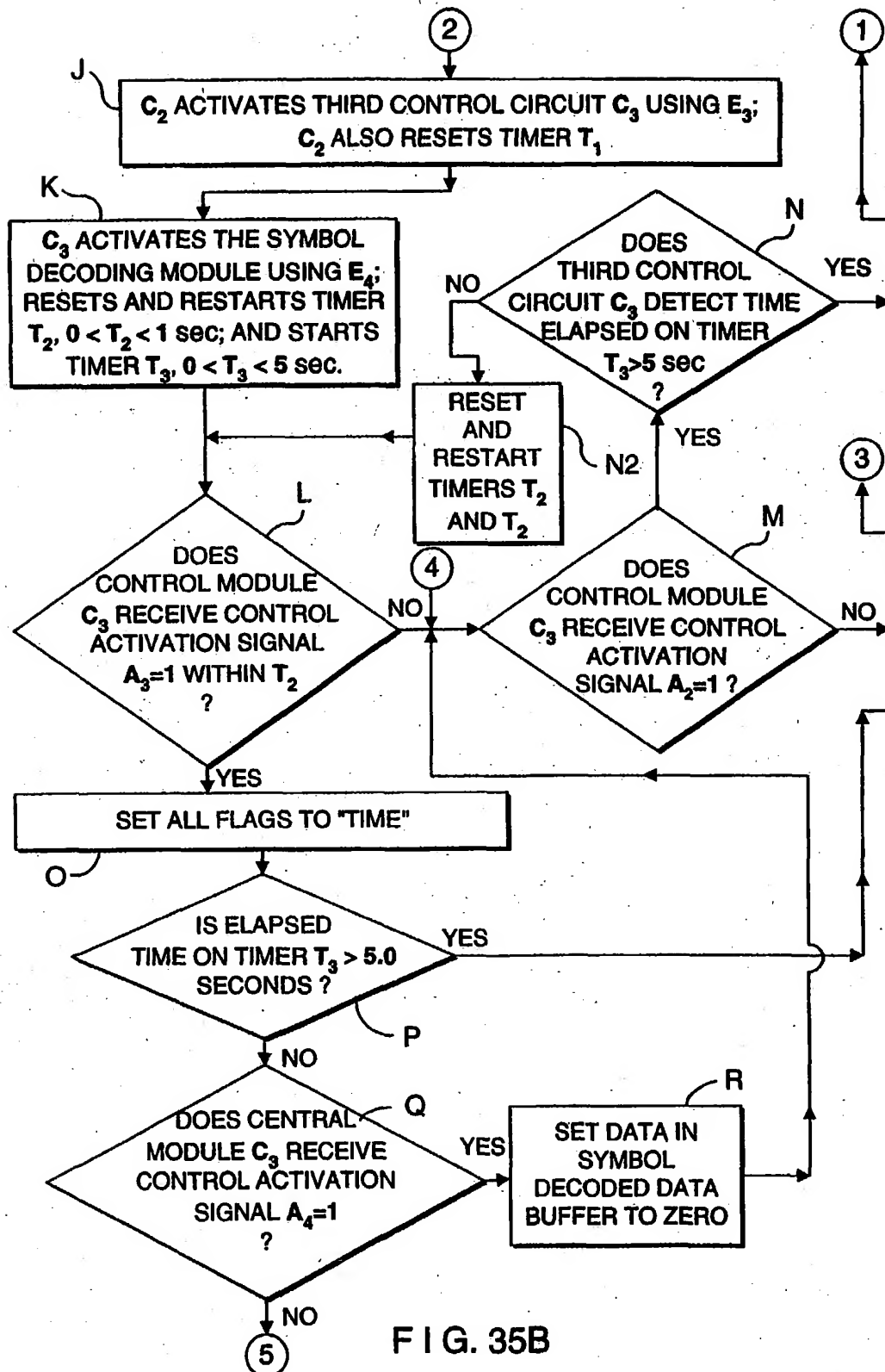


FIG. 35A2



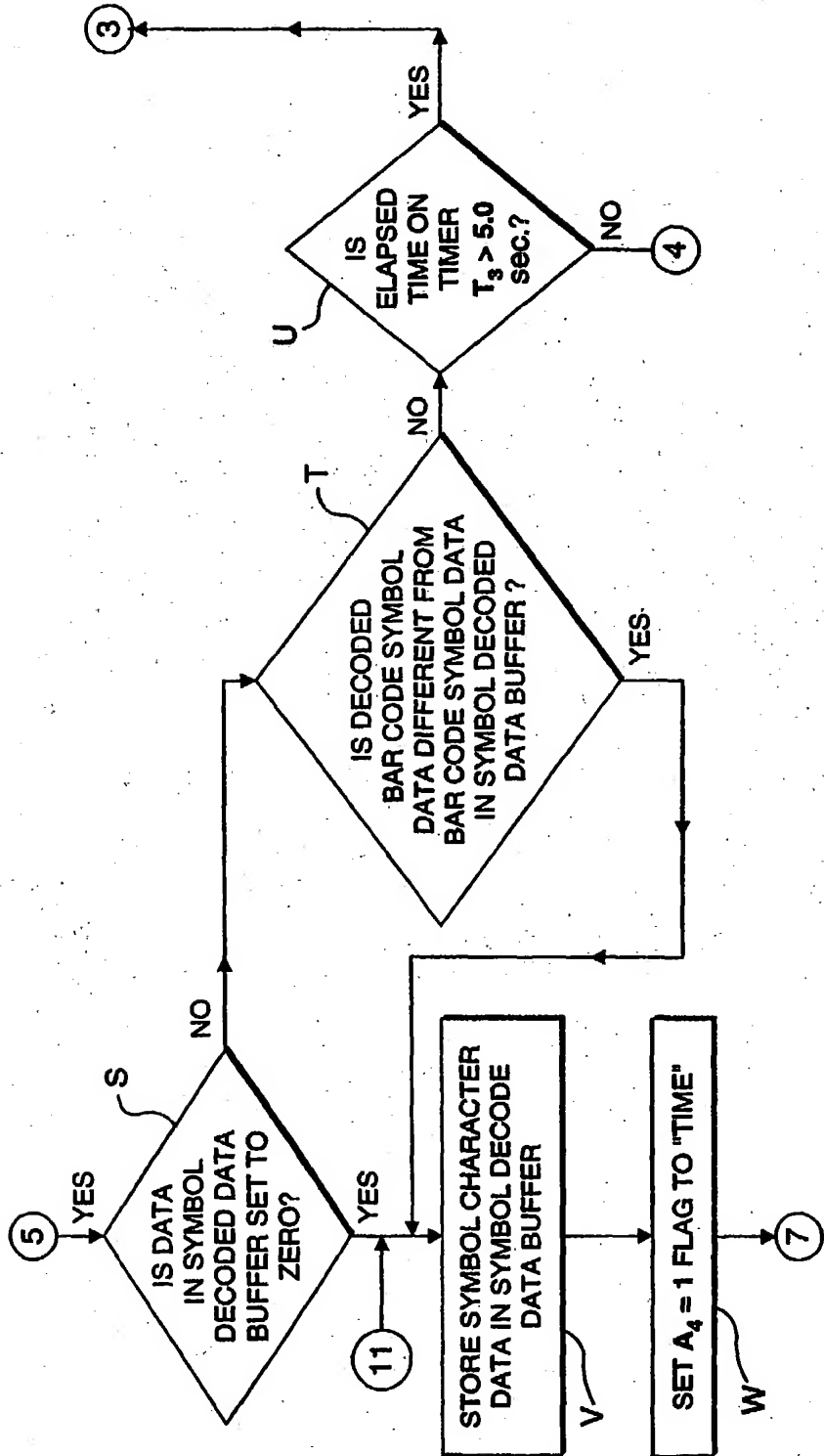


FIG. 35C

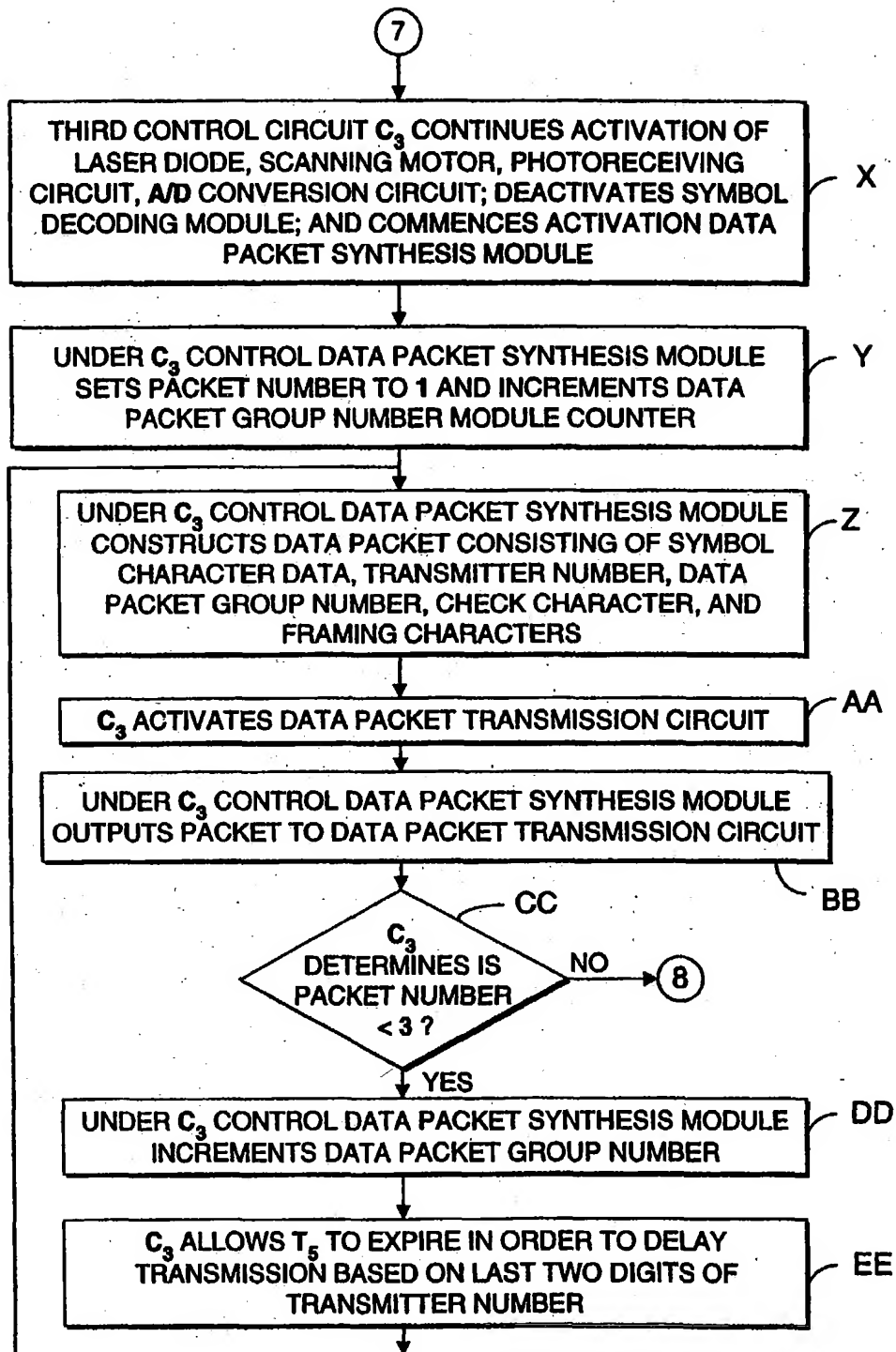


FIG. 35D

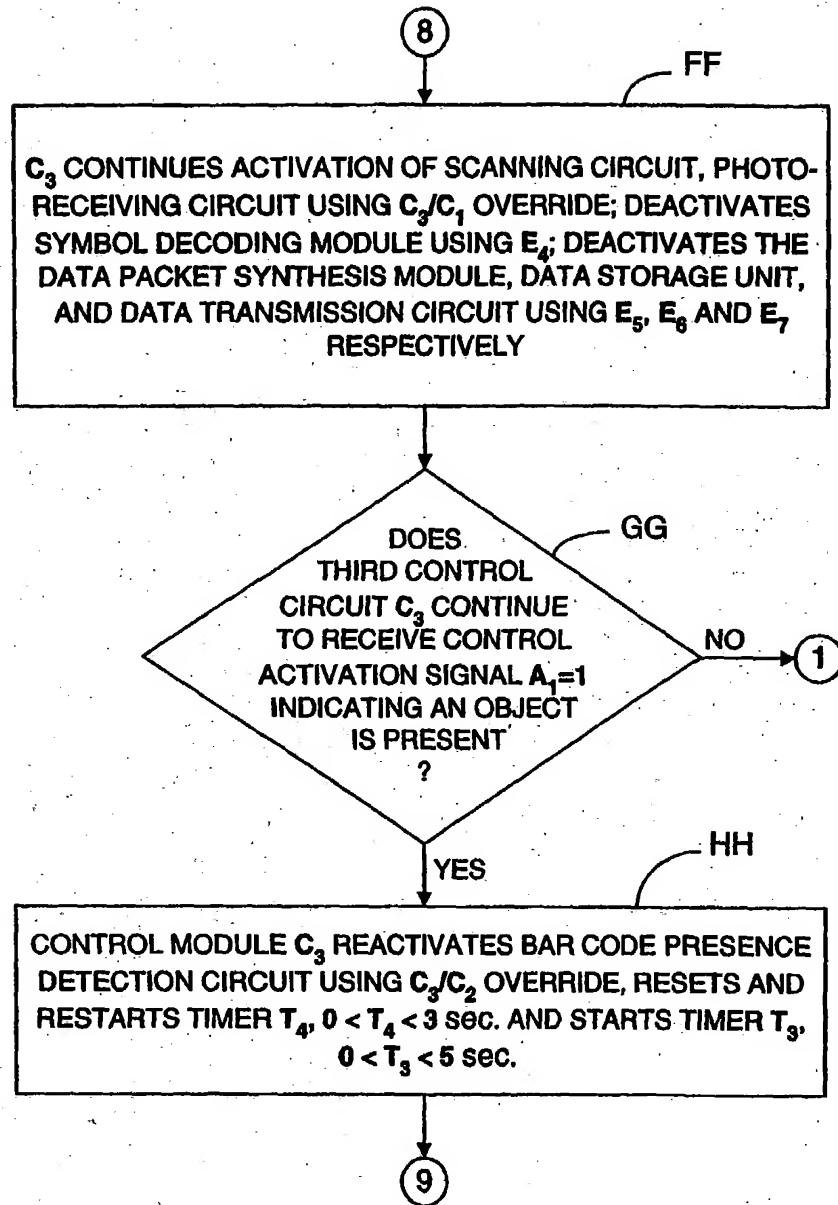


FIG. 35E

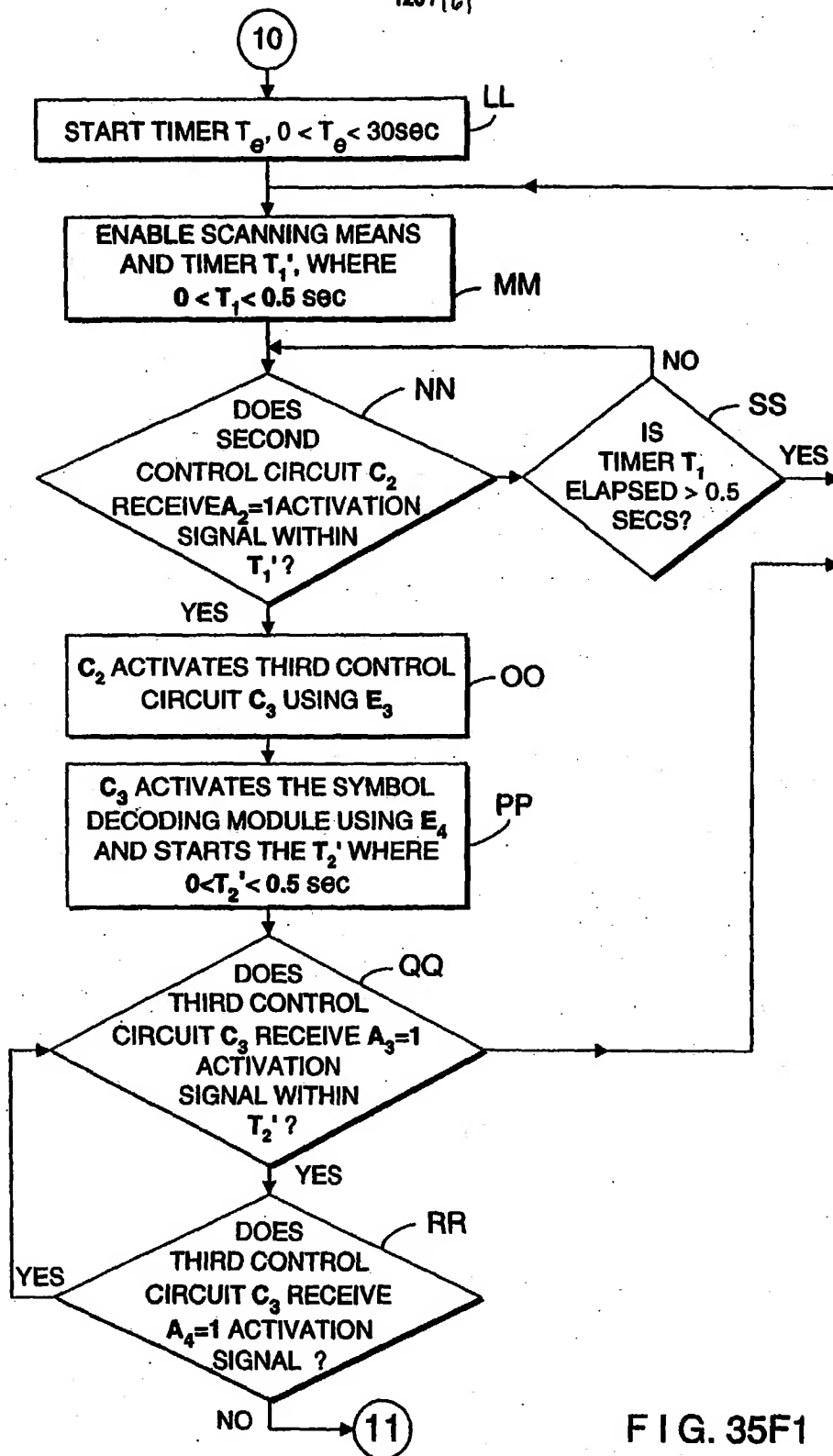
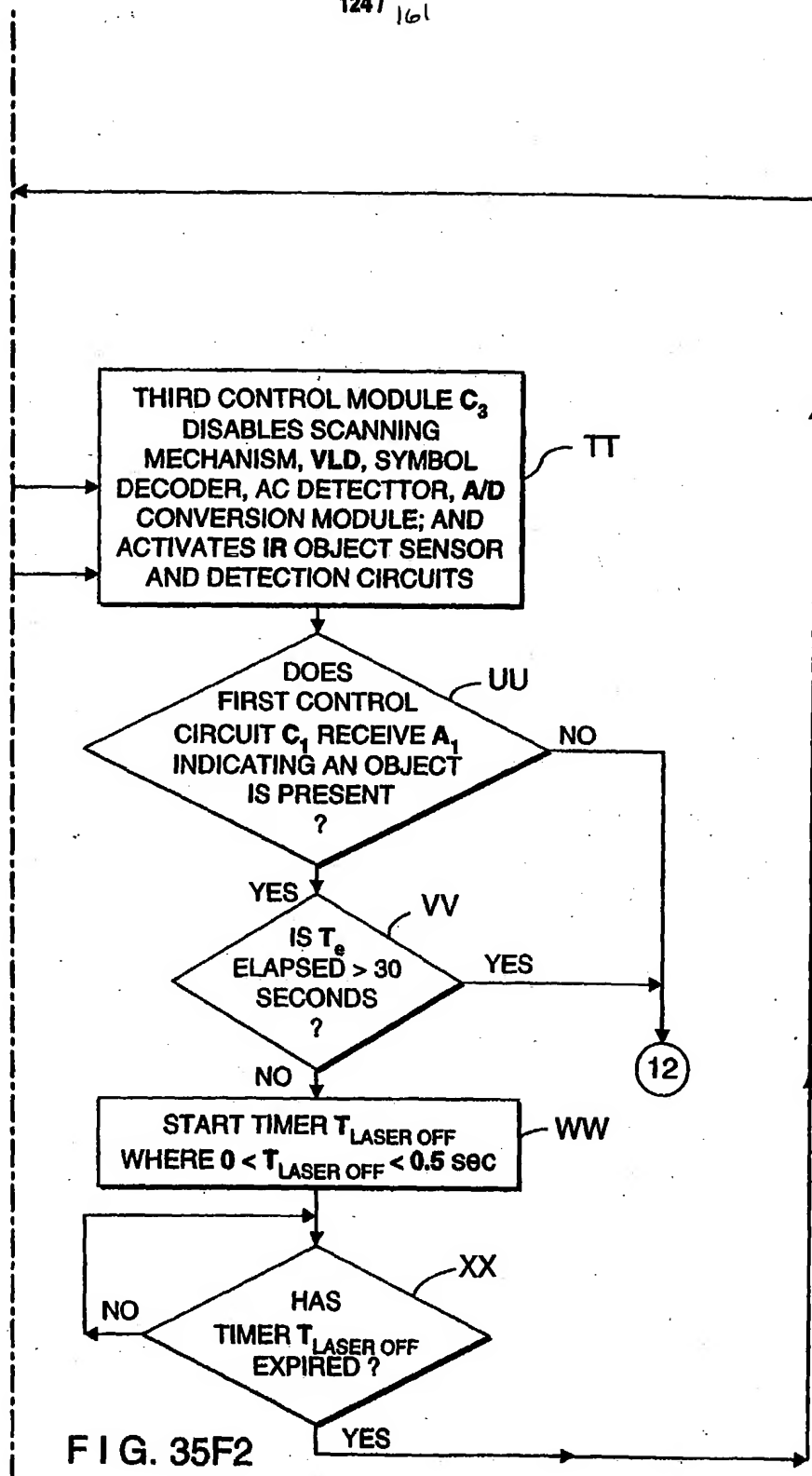
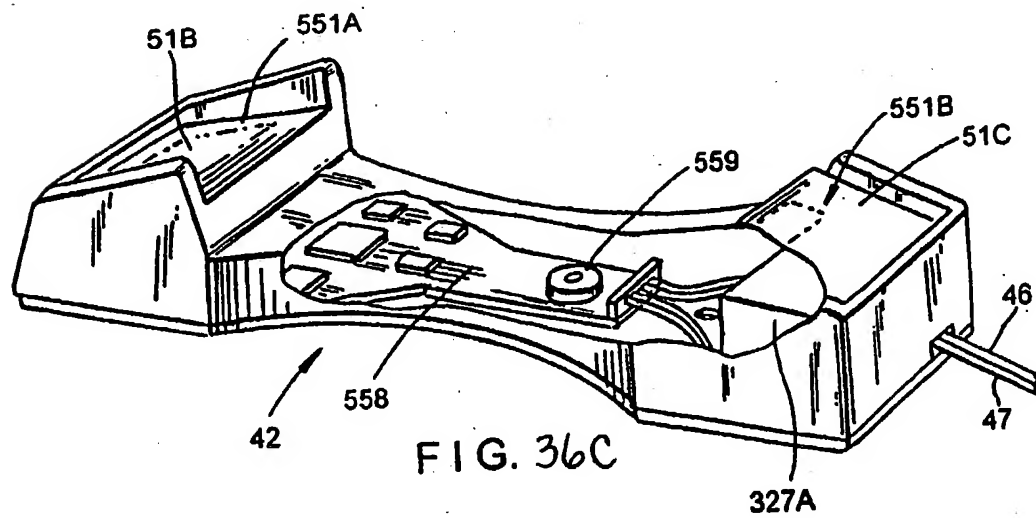
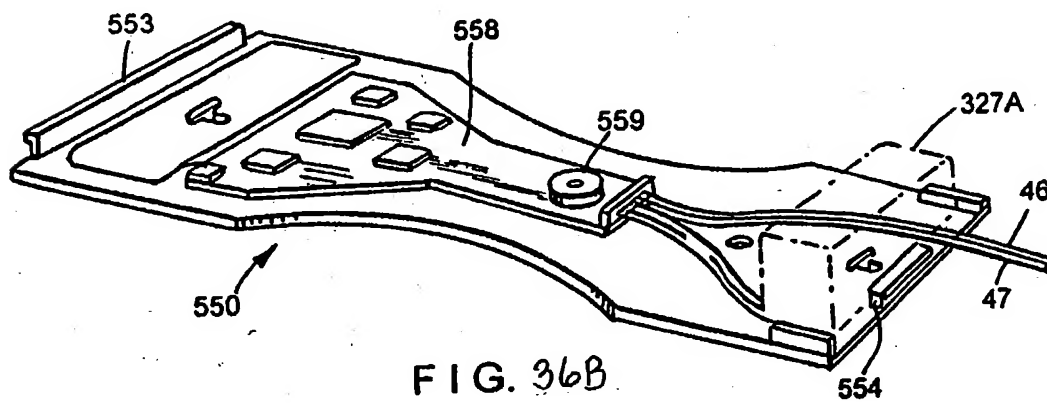
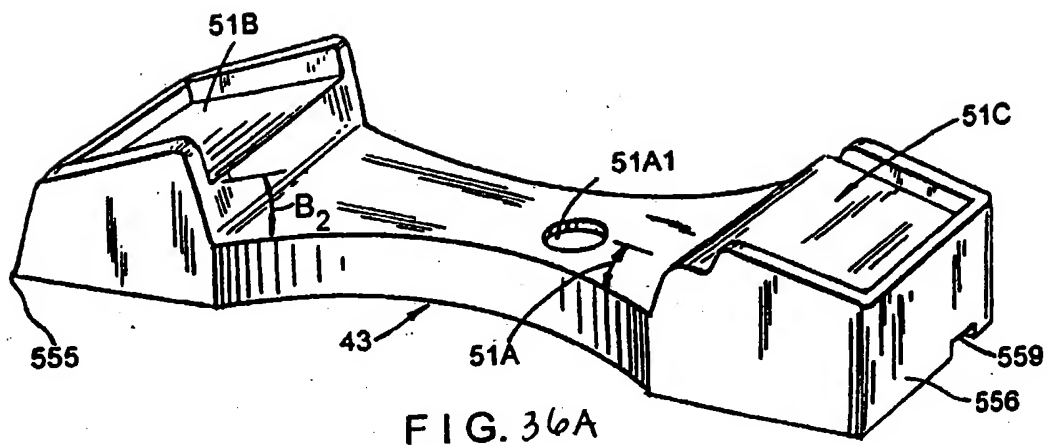


FIG. 35F1





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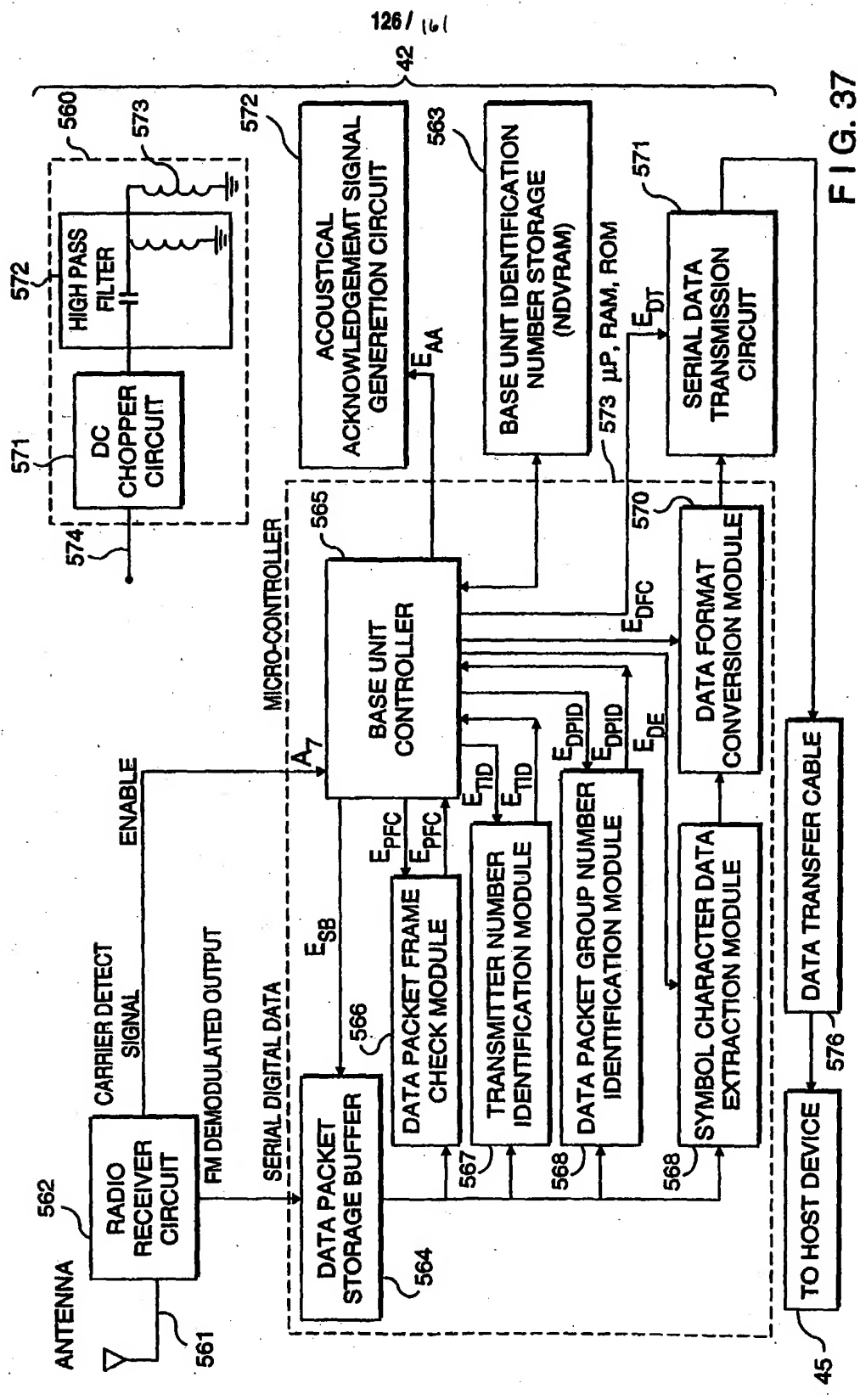
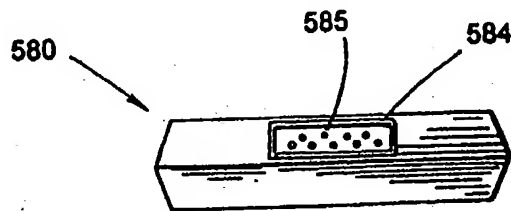
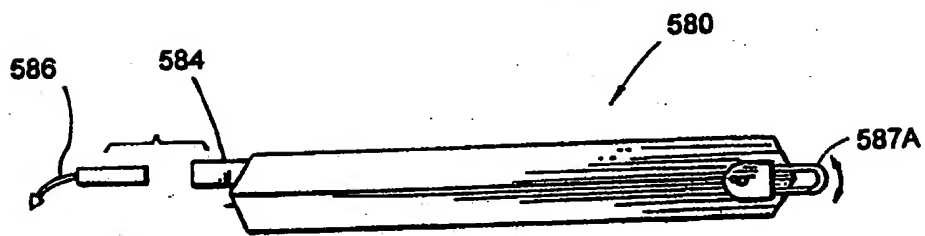
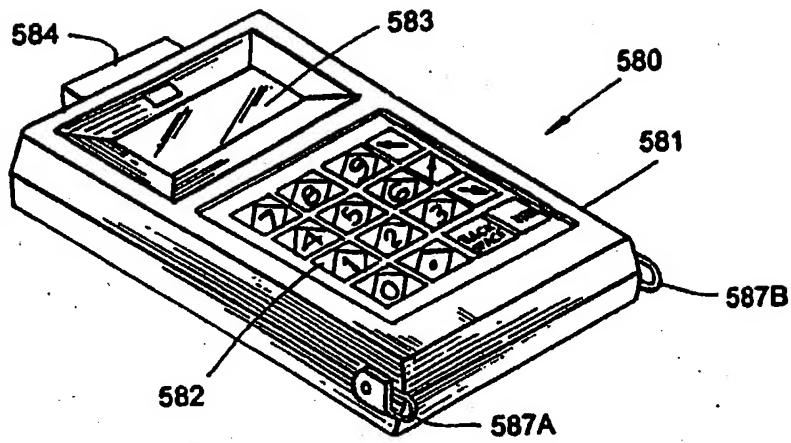


FIG. 37

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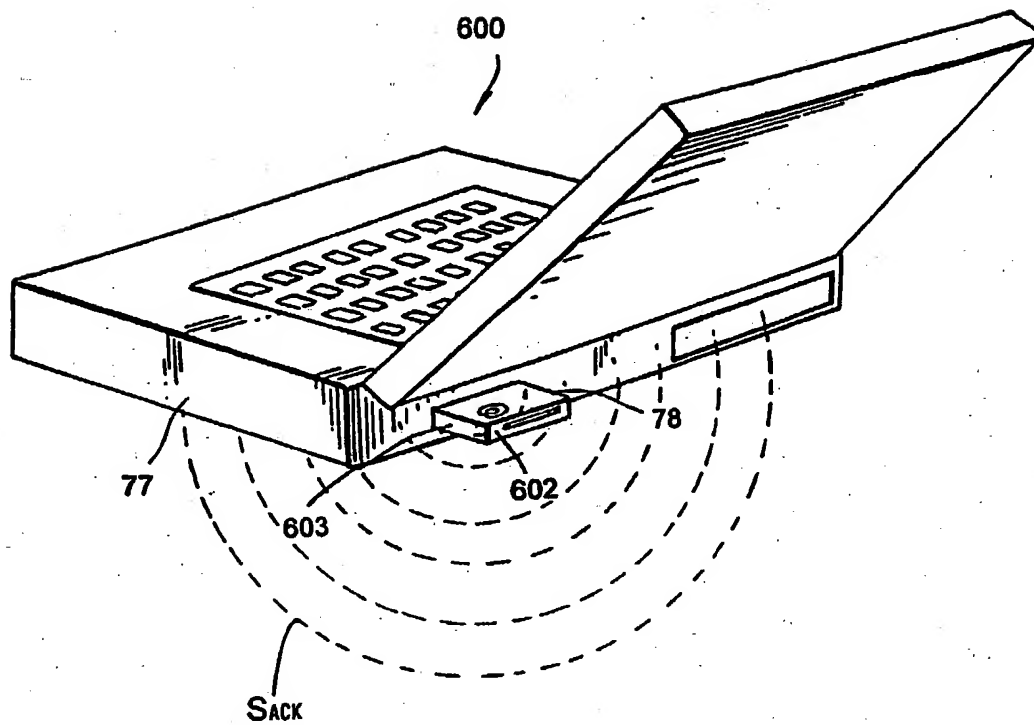


FIG. 39

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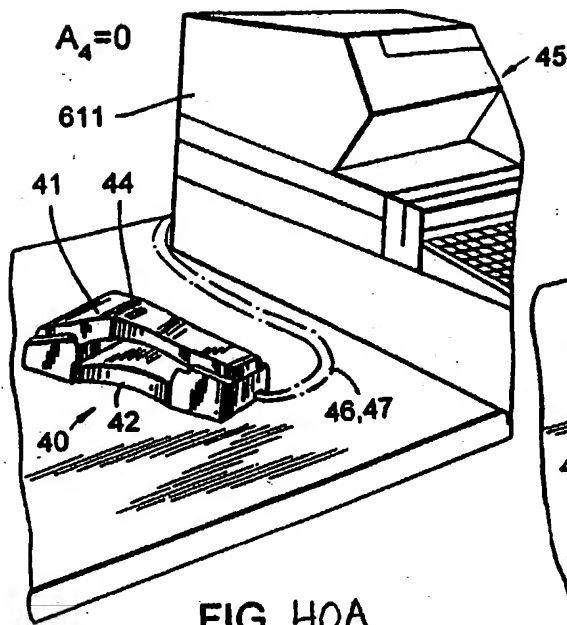


FIG. 40A

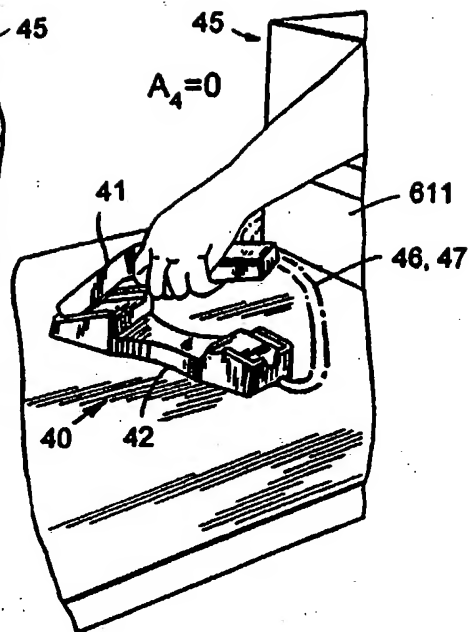


FIG. 40B

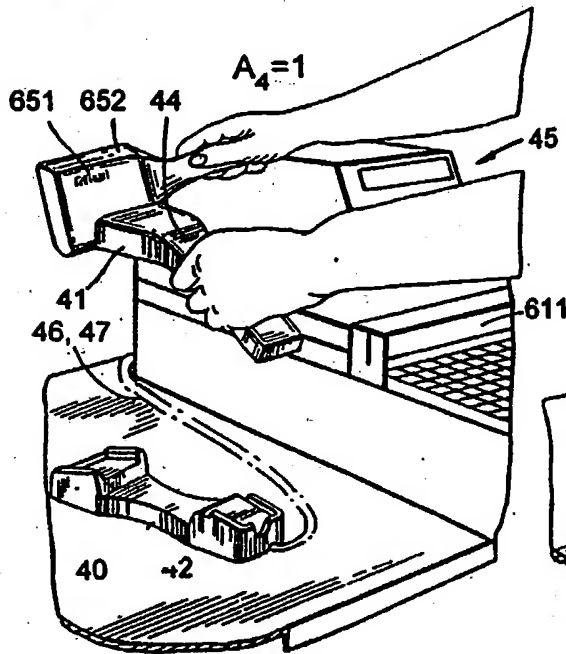


FIG. 40C

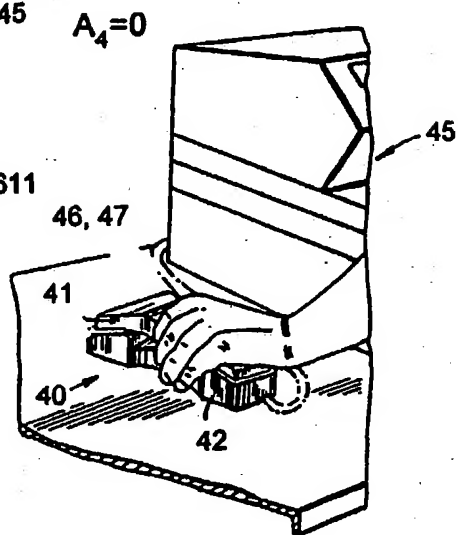


FIG. 40D

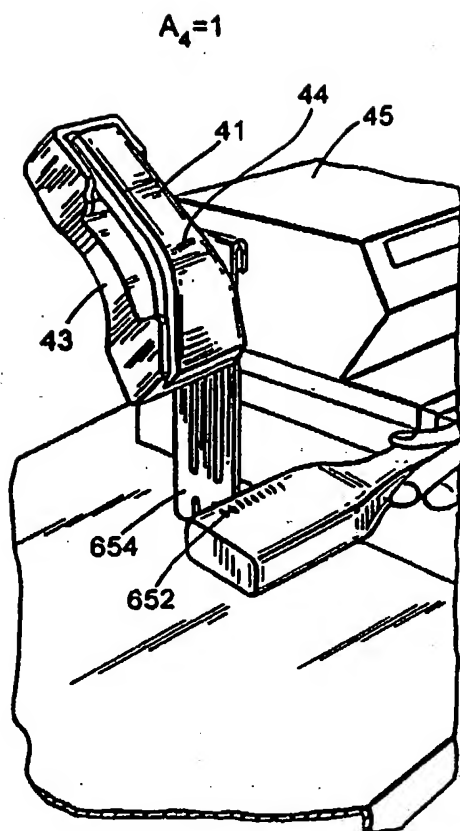


FIG. 4|A

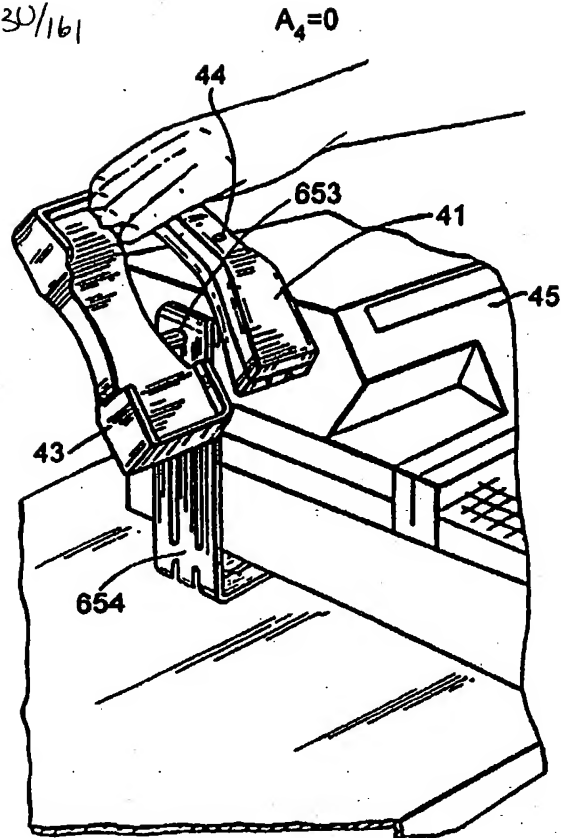


FIG. 4|B

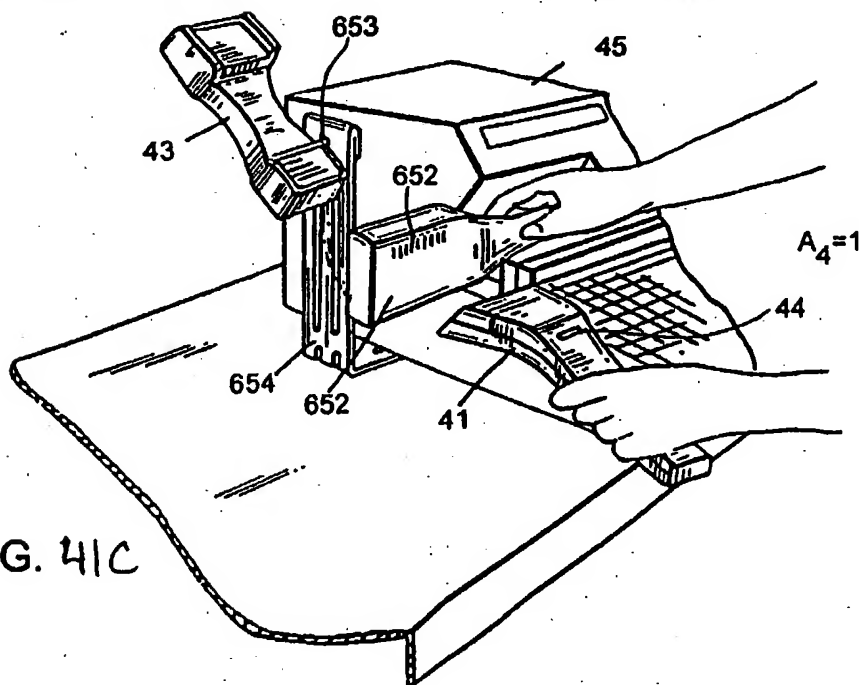
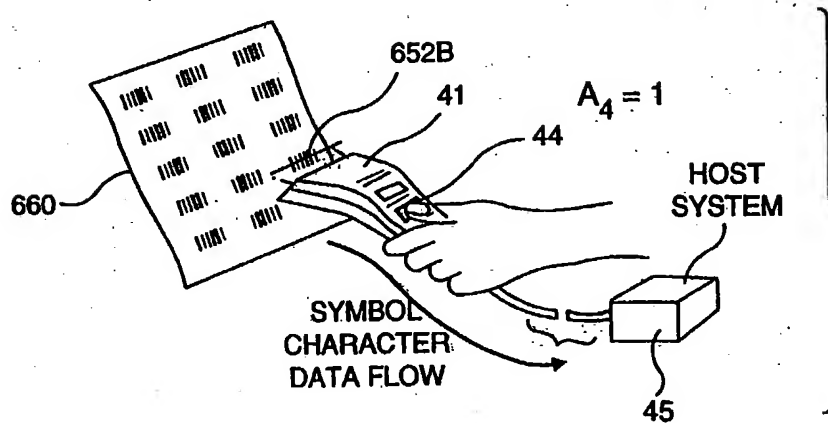
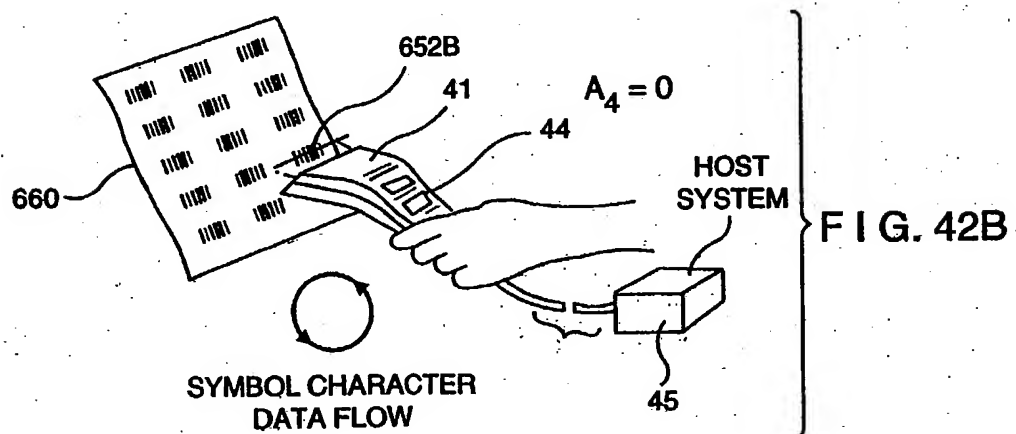
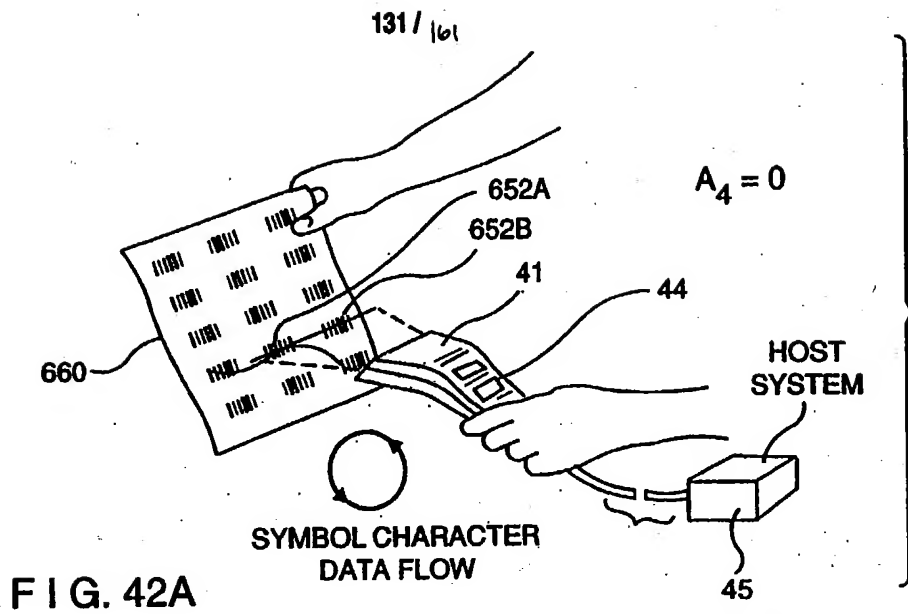
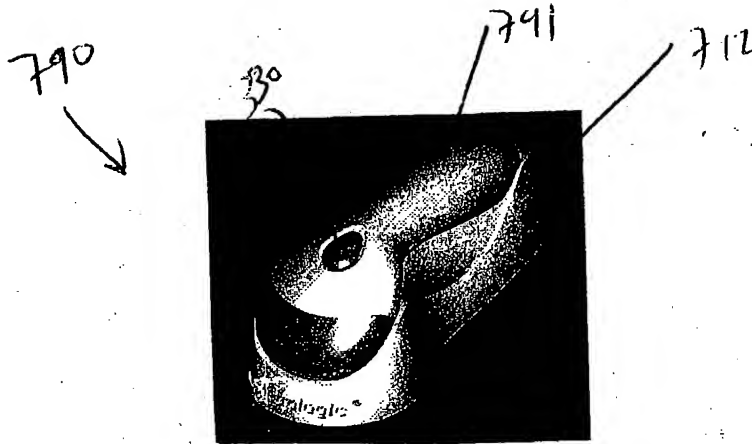


FIG. 4|C



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Automatic Barcode  
Reading  
System with  
2-WAY  
RF Communication  
Link

FIG. 43A



FIG. 43B

FIG. 43C

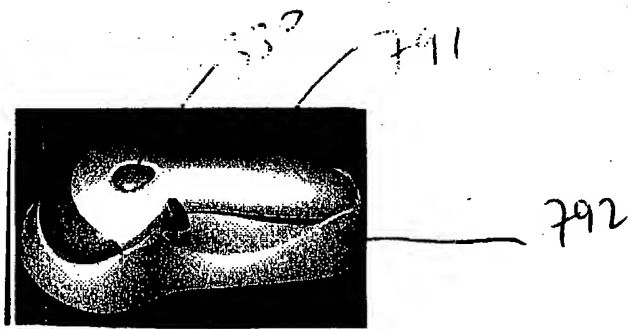


FIG. 43D



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Protracted configuration

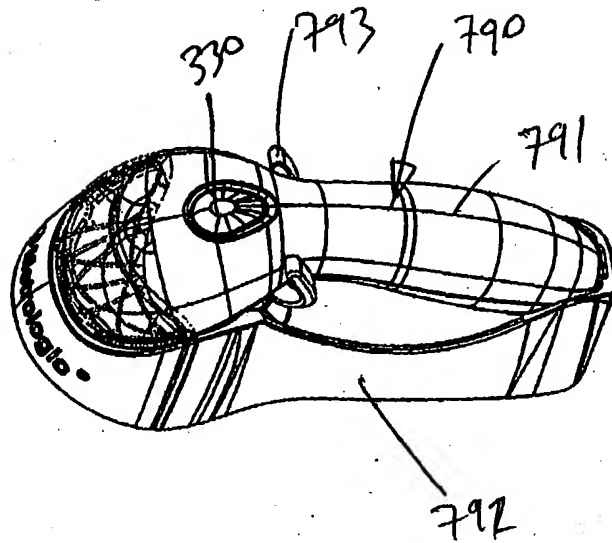


FIG. 43F

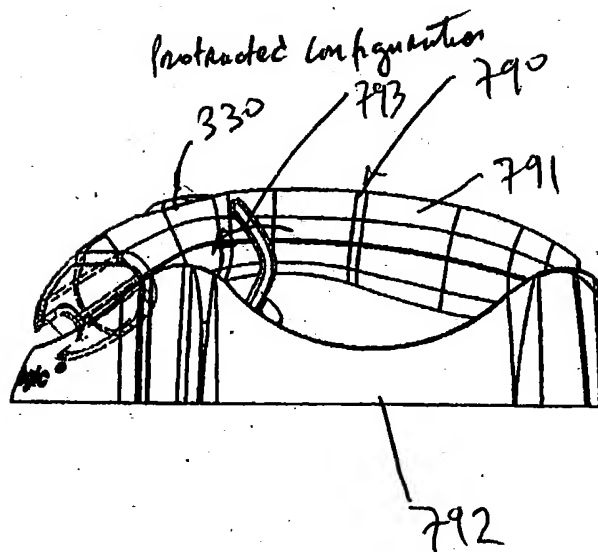


FIG. 43E

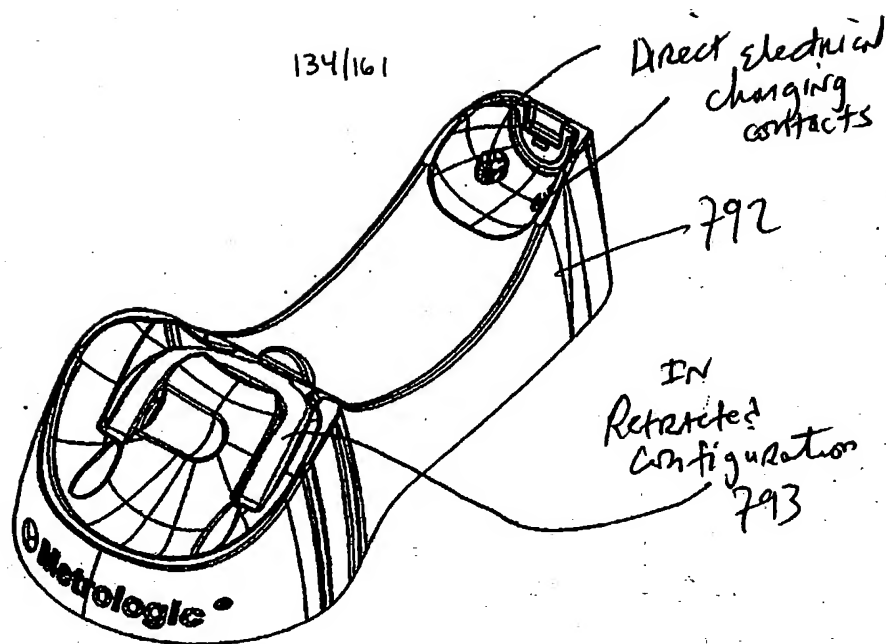


FIG. 43G

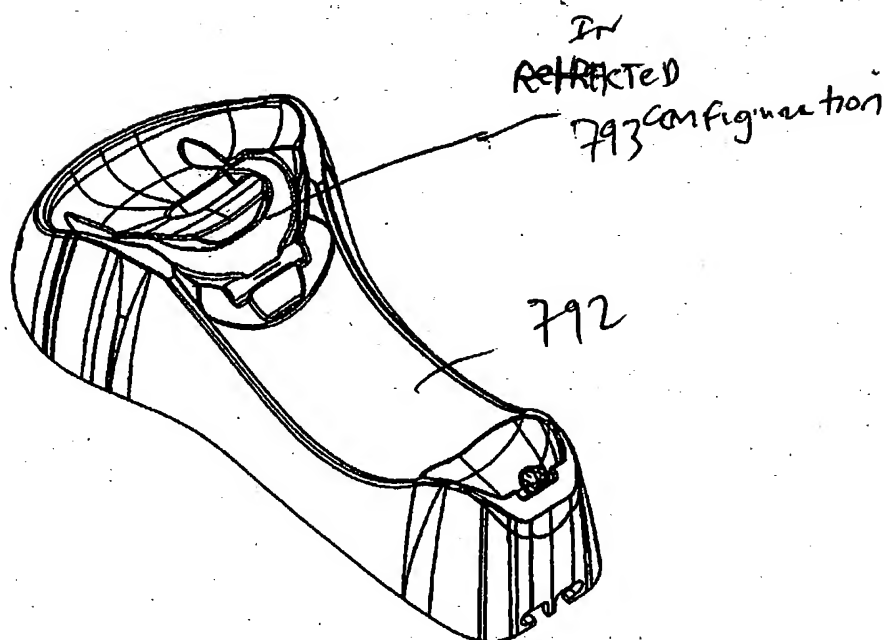


FIG. 43A

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Retracted Configuration  
793



FIG. 43 I 792

Projected Configuration  
793

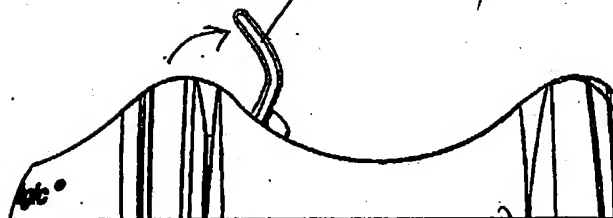


FIG. 43 J 792

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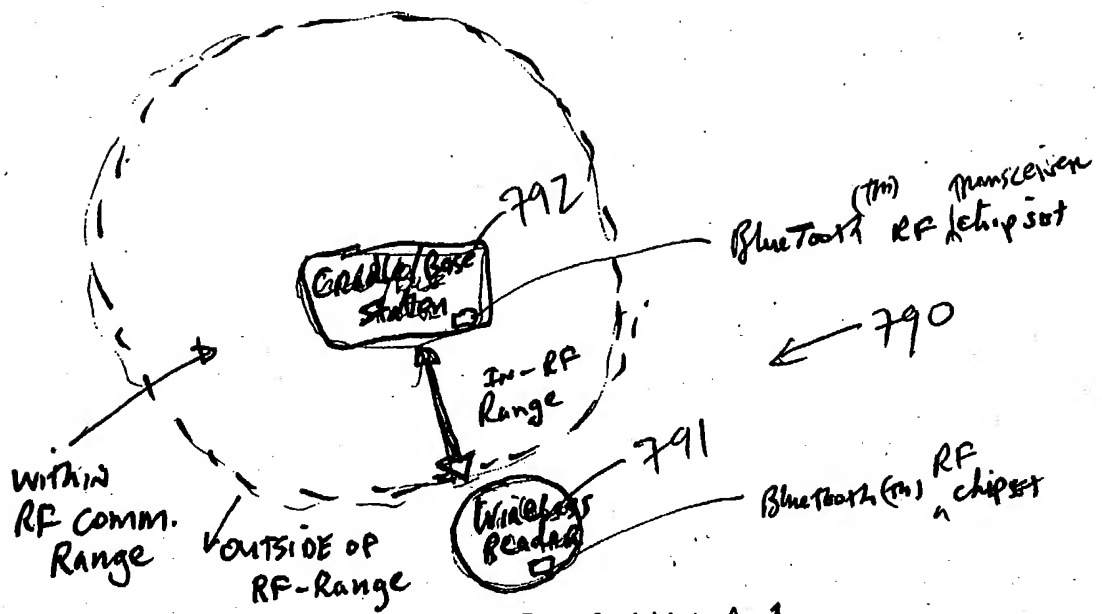


FIG. 44A1

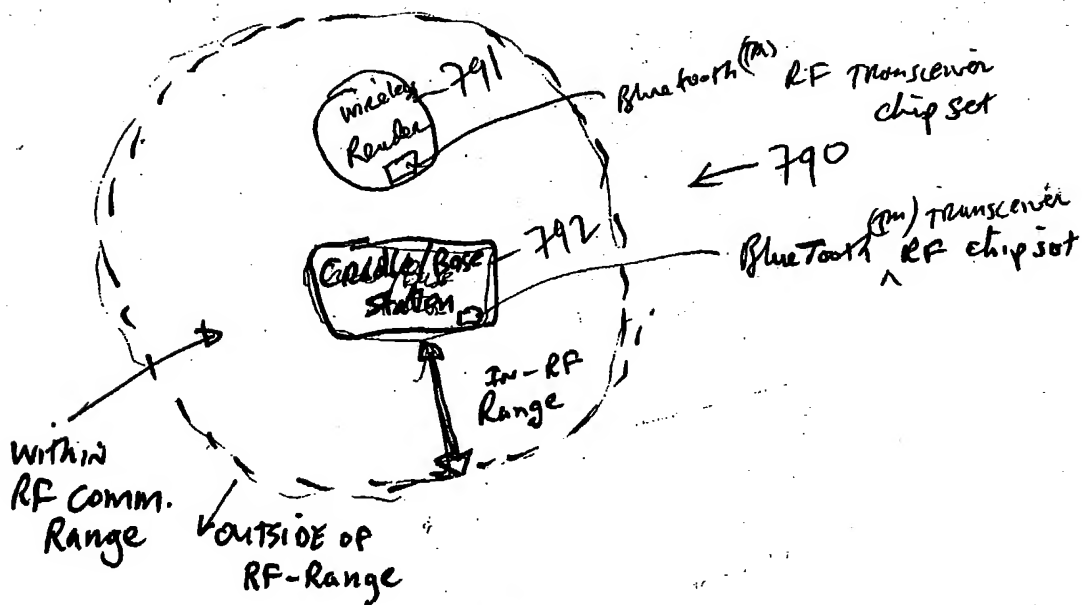


FIG. 44A2

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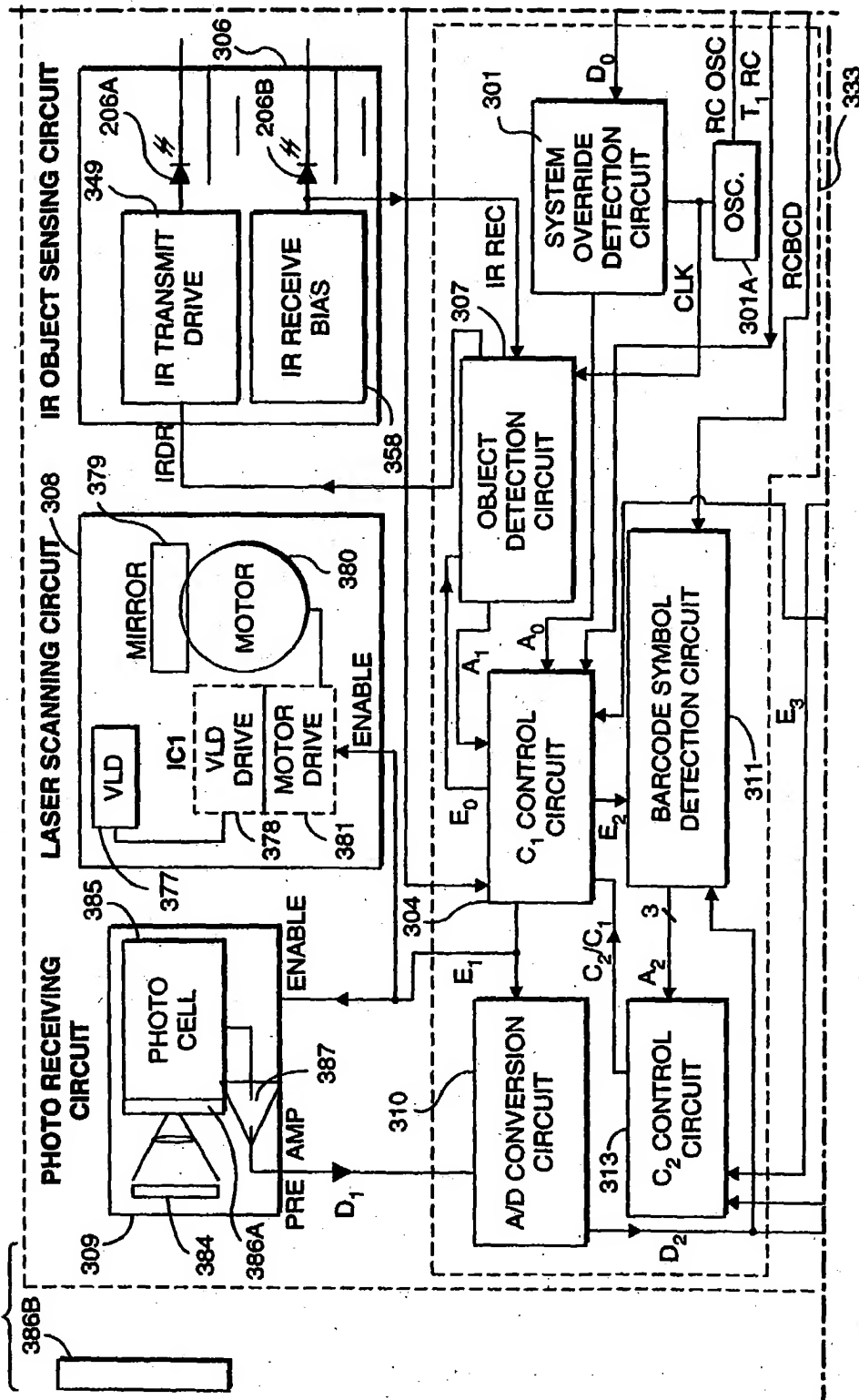


FIG 45A1

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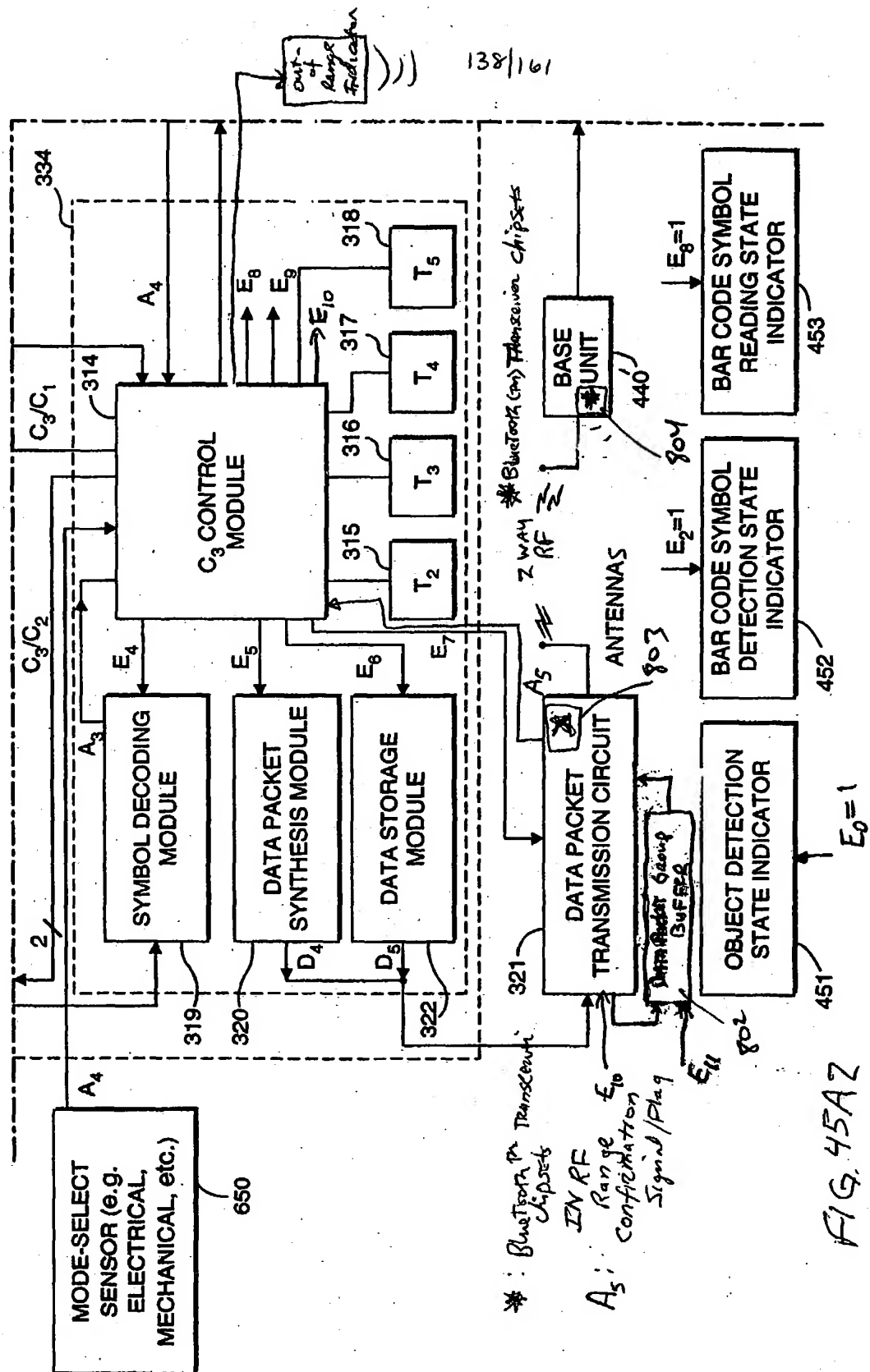
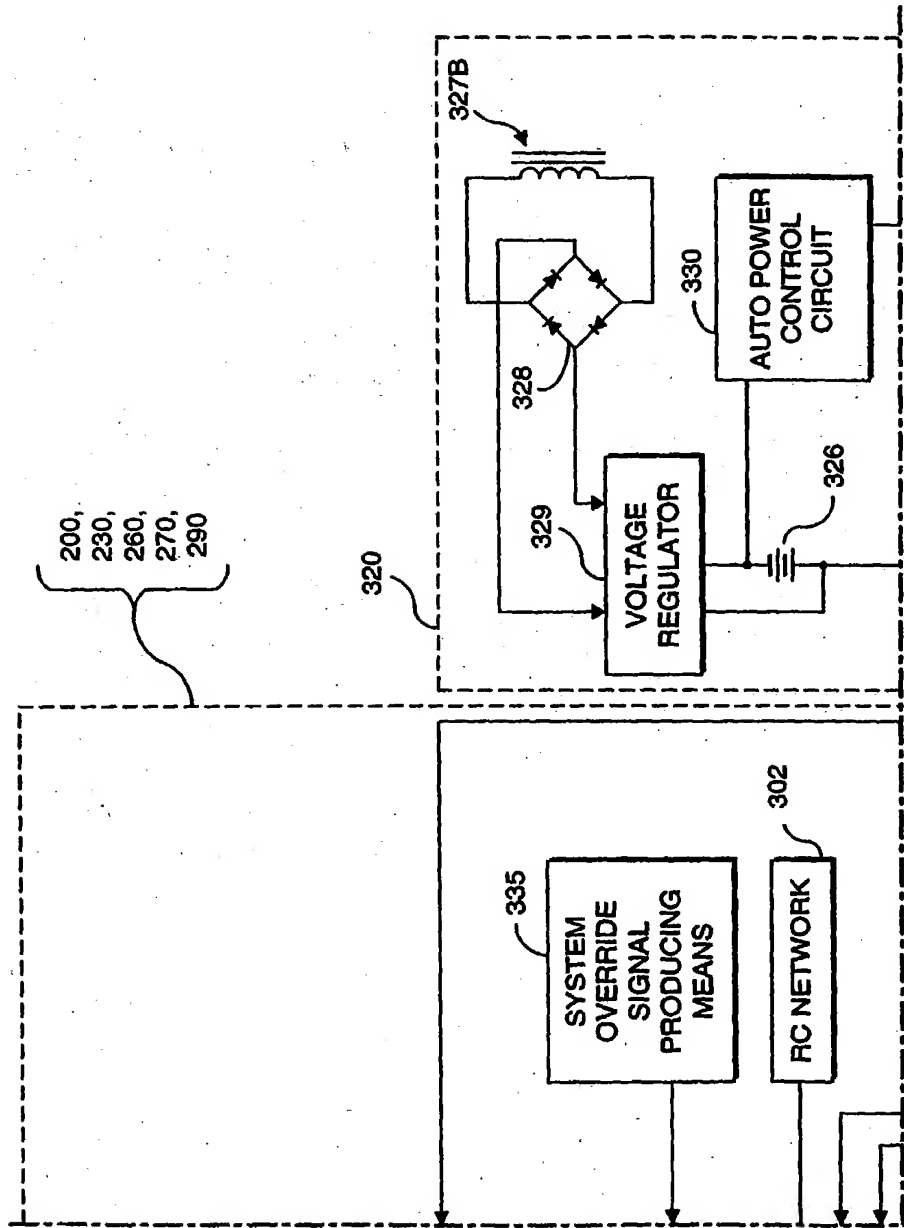
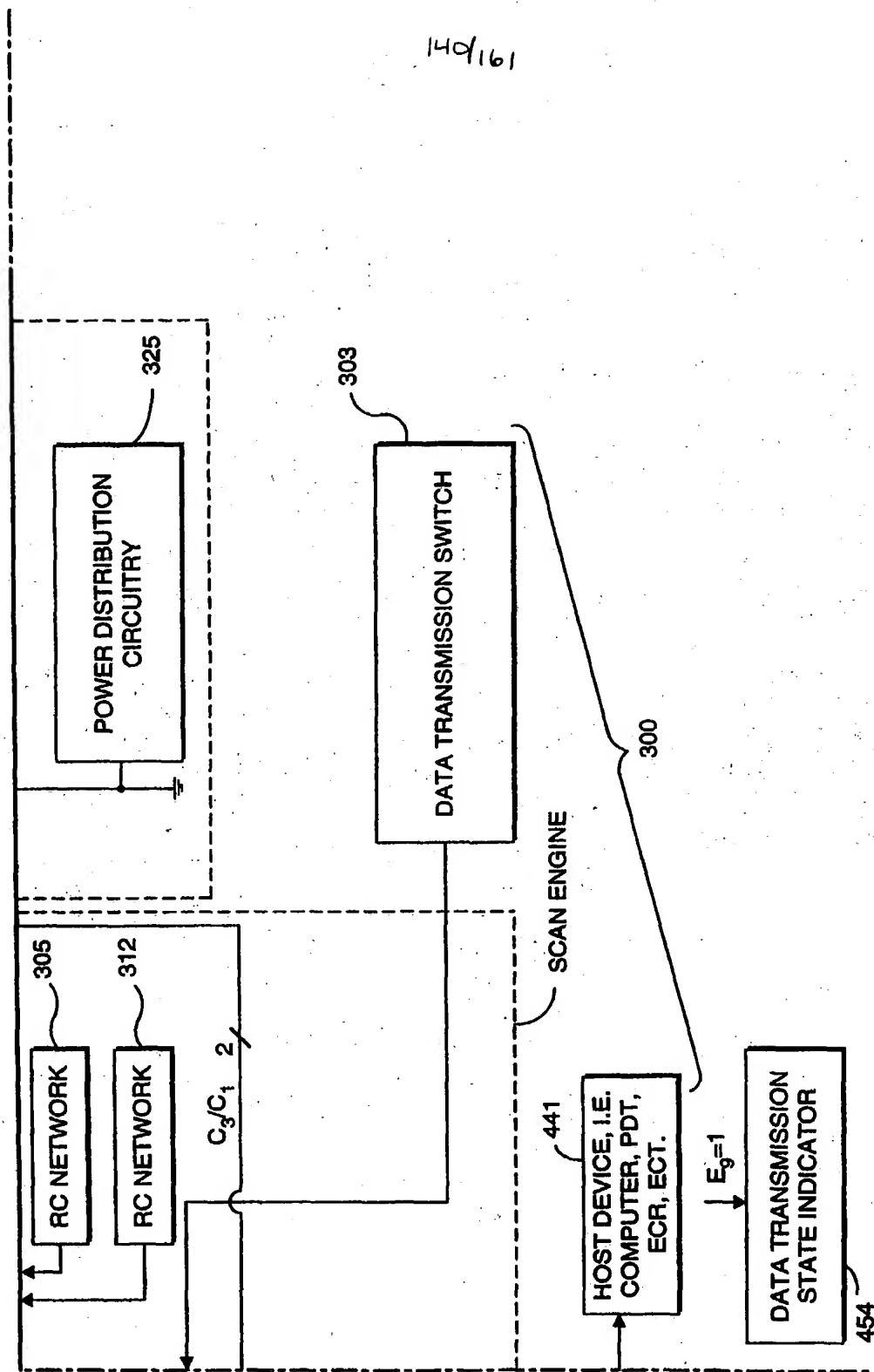


FIG. 45A2







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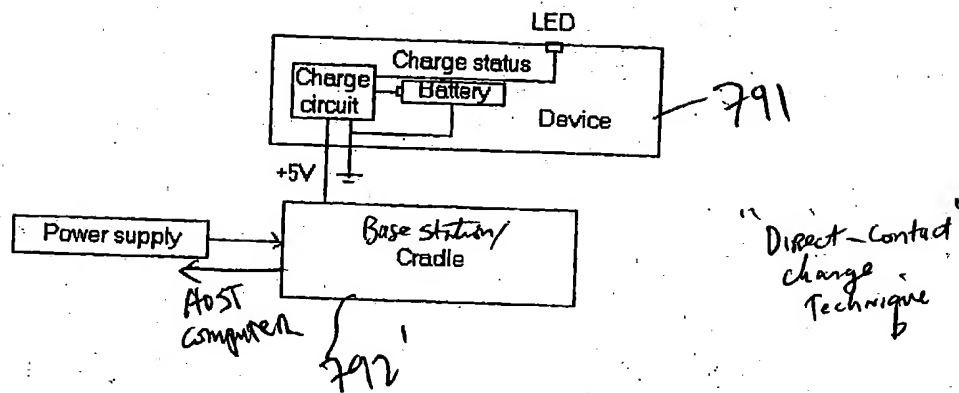


FIG. 45B

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DATA Packet  
TRANSMISSION VIA  
2-WAY RF WITH Automatic  
RP-Range Dependent  
Control

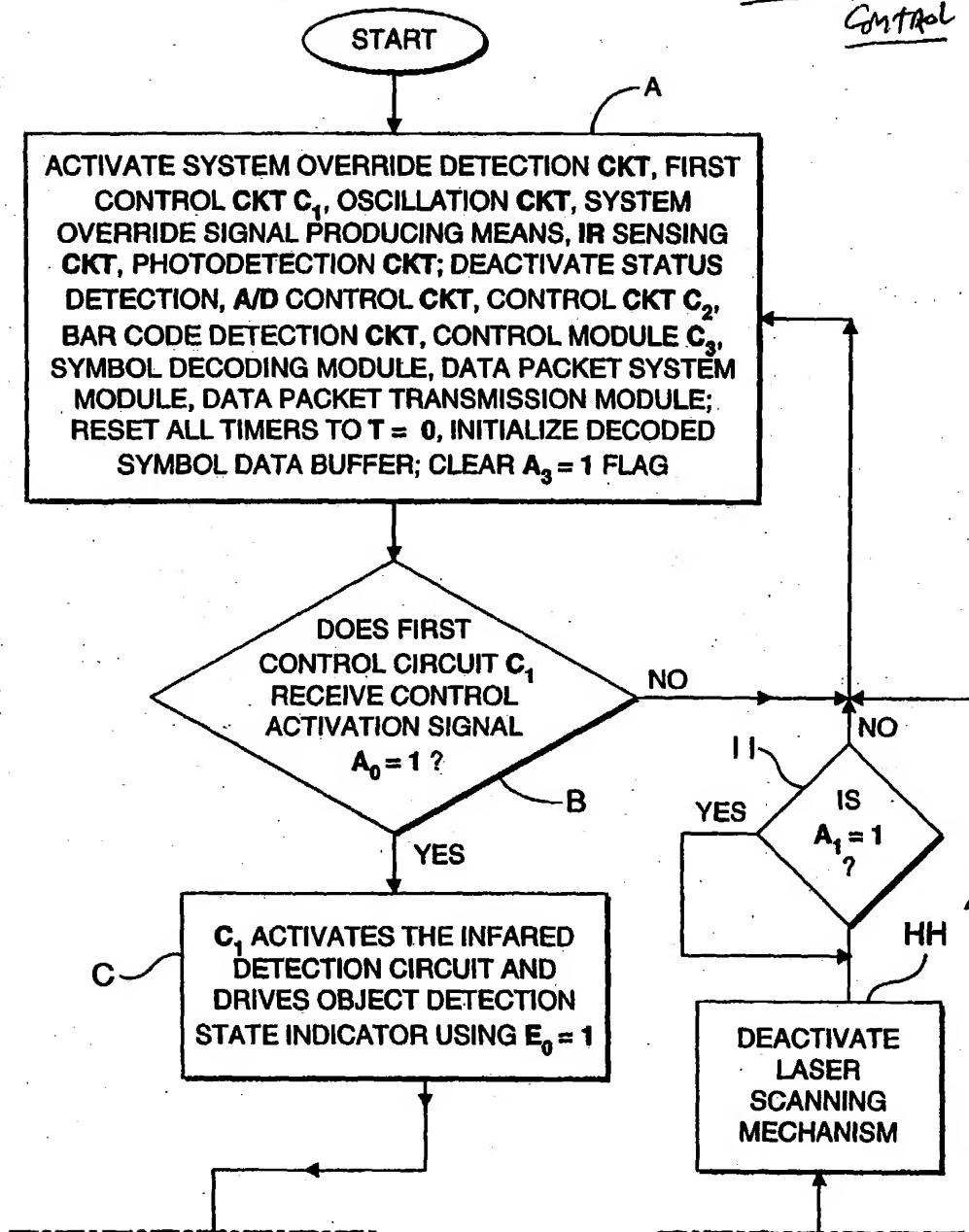
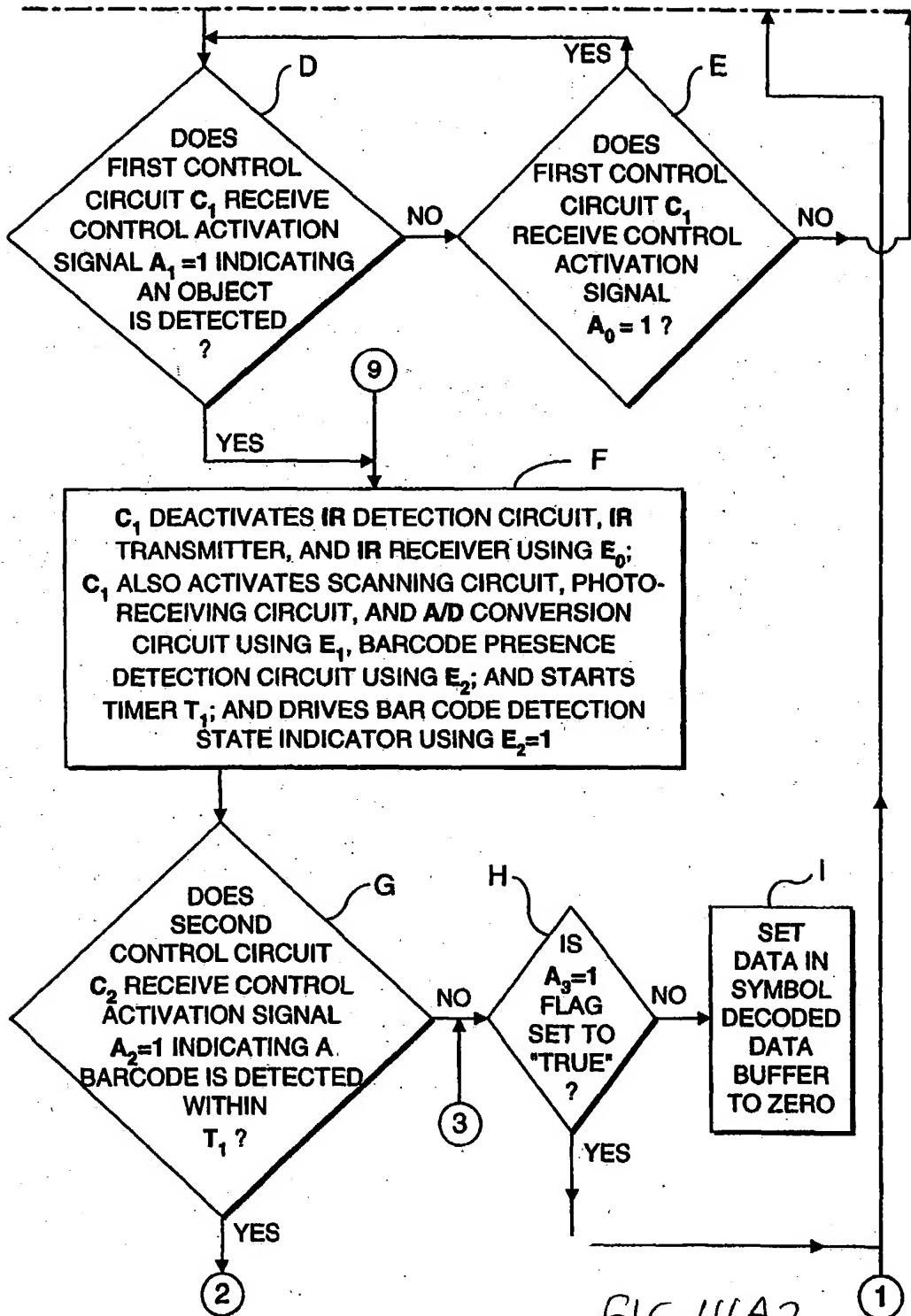


FIG. 46A1

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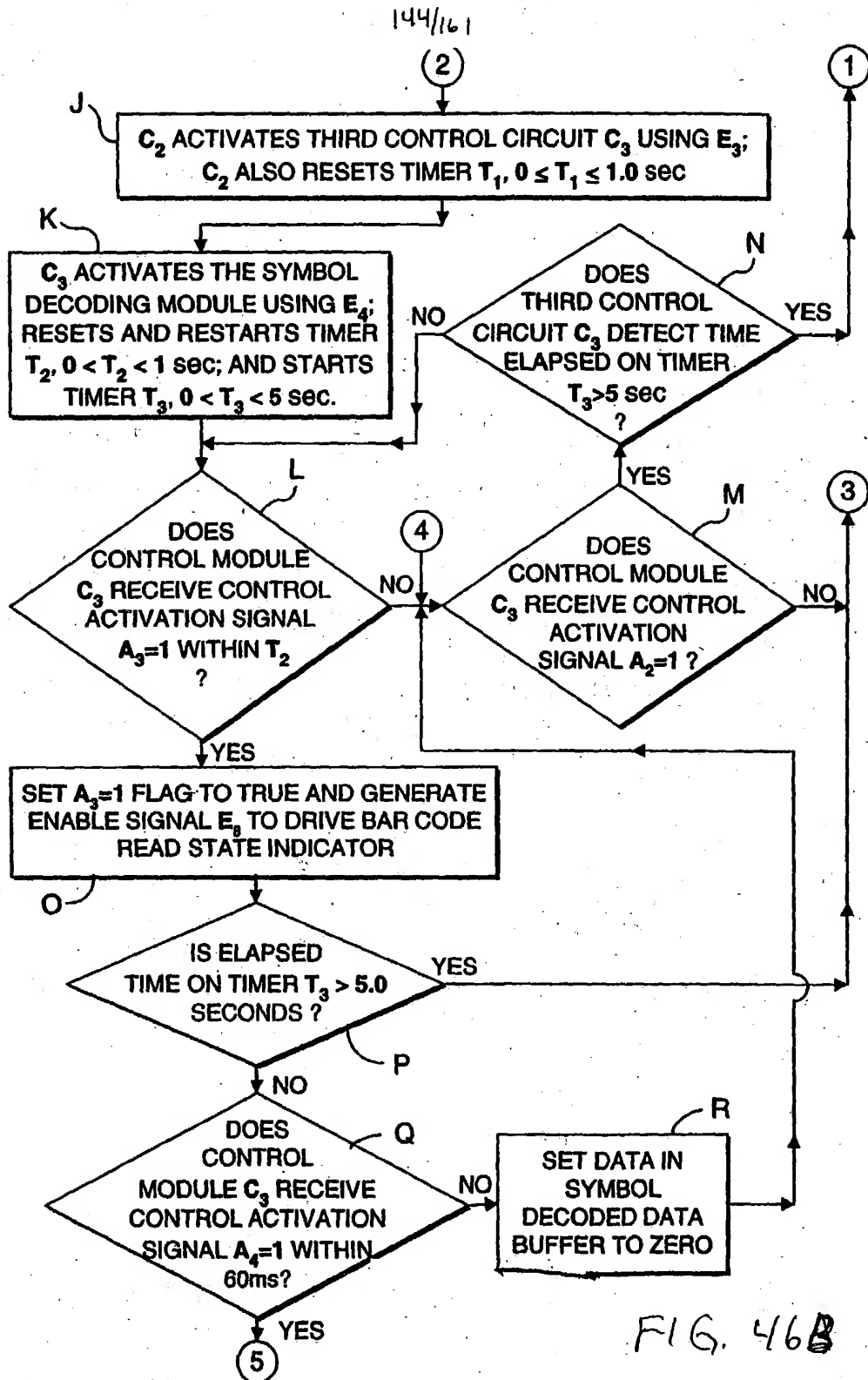


FIG. 46B

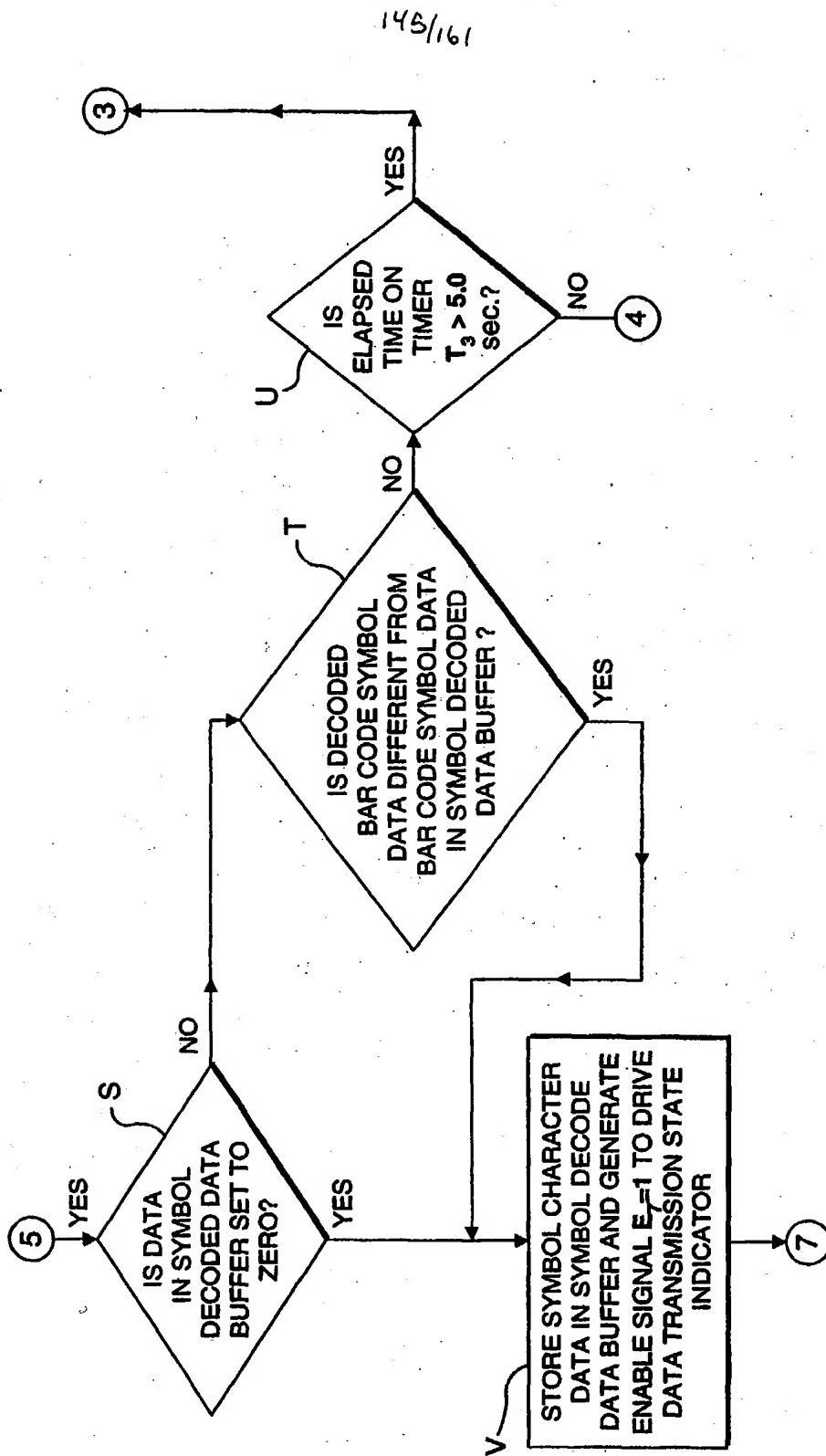


FIG. 46C1

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7

THIRD CONTROL CIRCUIT  $C_3$  CONTINUES ACTIVATION OF LASER DIODE, SCANNING MOTOR, PHOTORECEIVING CIRCUIT, A/D CONVERSION CIRCUIT; DEACTIVATES SYMBOL DECODING MODULE; AND COMMENCES ACTIVATION DATA PACKET SYNTHESIS MODULE

W

UNDER  $C_3$  CONTROL DATA PACKET SYNTHESIS MODULE CONSTRUCTS DATA PACKET CONSISTING OF SYMBOL CHARACTER DATA, TRANSMITTER NUMBER, DATA PACKET GROUP NUMBER, CHECK CHARACTER AND FRAMING CHARACTERS

X

IS IN-RF RANGE CONFIRMATION Signal  $A_5=1$ ?

NO

YES

Y

NO

ARE DATA PACKET Group(S) STORED IN DATA PACKET Group BUFFER?

Z

YES

$C_3$  Control Module Generates Enable Signal  $E_{11}=1$  Reloading Buffered Data Packet Group(S) into Data Packet Transmission Circuit

AA

Control module  $C_3$  Generates Enable Signal  $E_{10}=1$  loading currently Synthesized Data packet Group into Data Packet Transmission Circuit

BB

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FIG. 46C2

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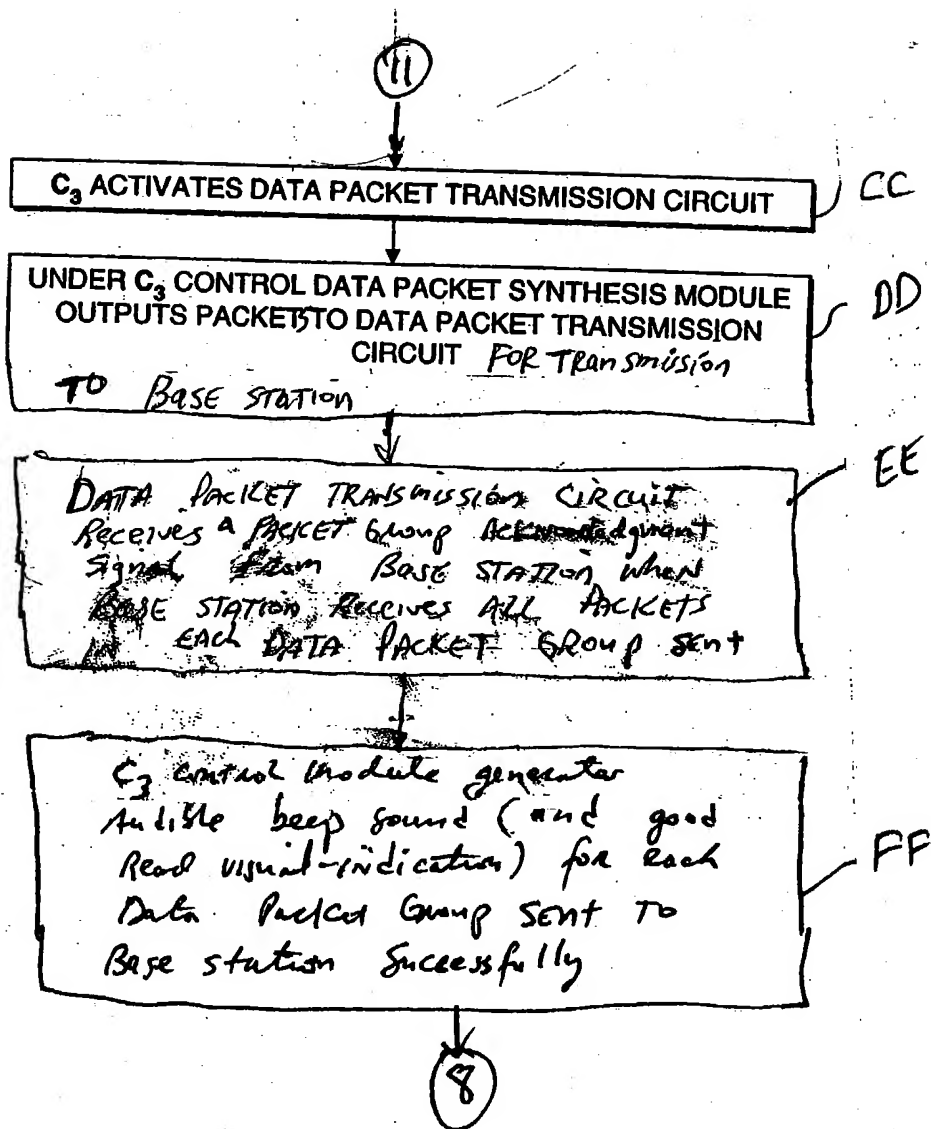


FIG. 46 C3

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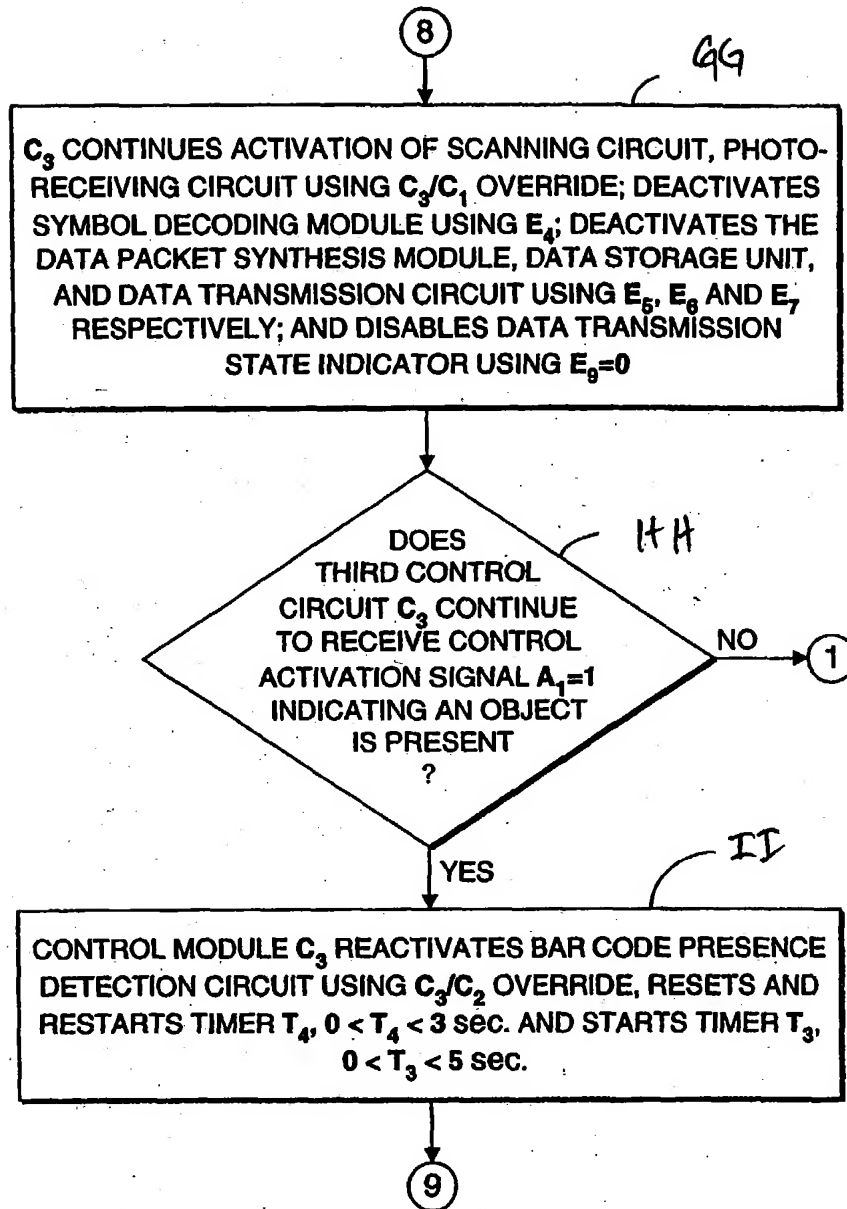


FIG 46 C4



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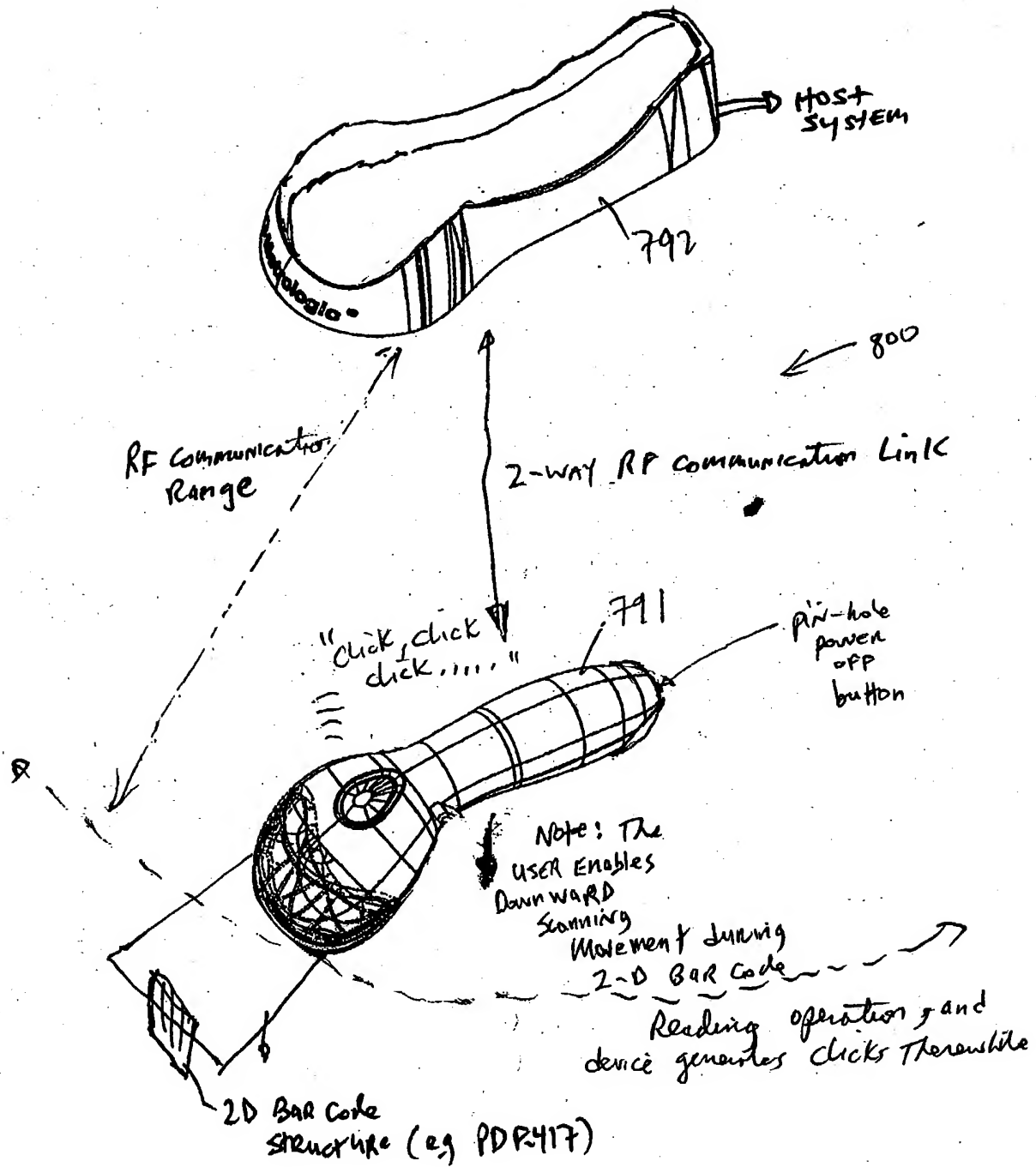
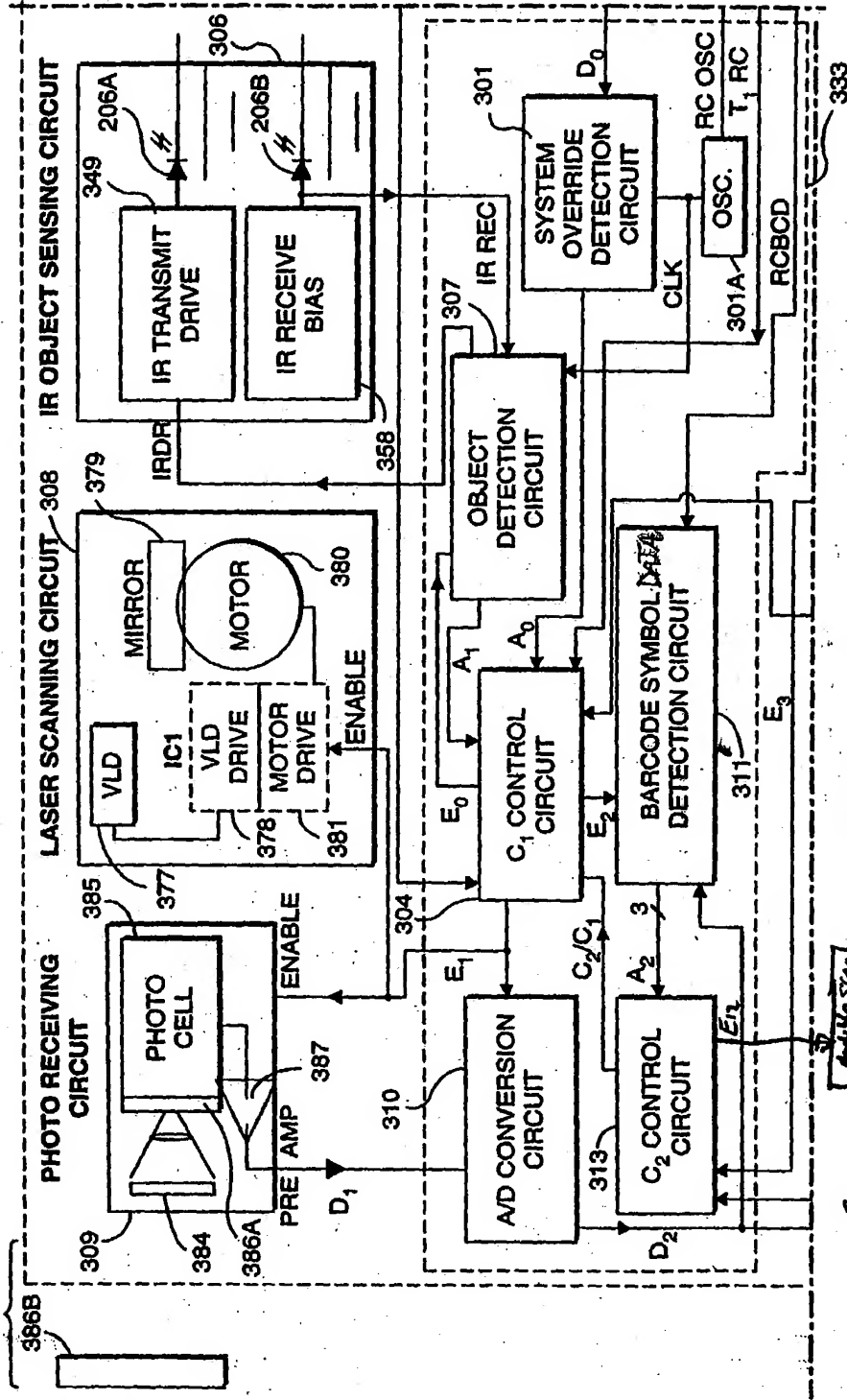


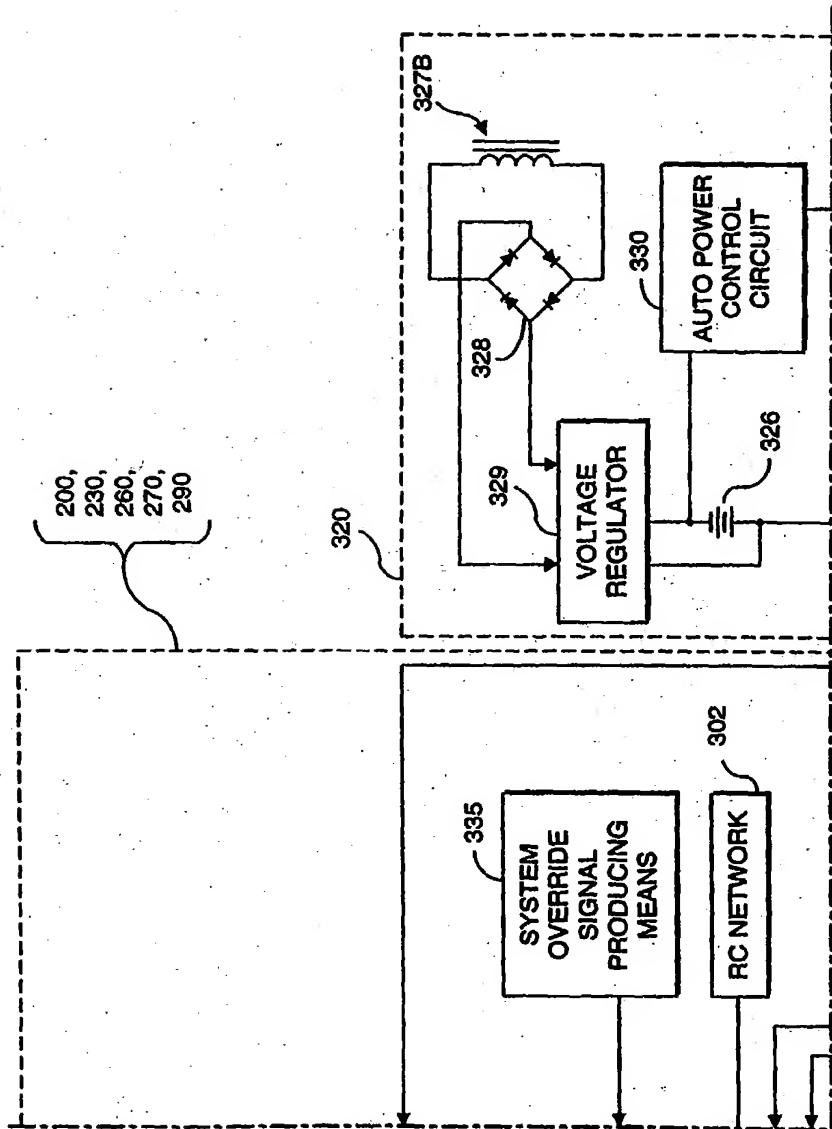
FIG. 47



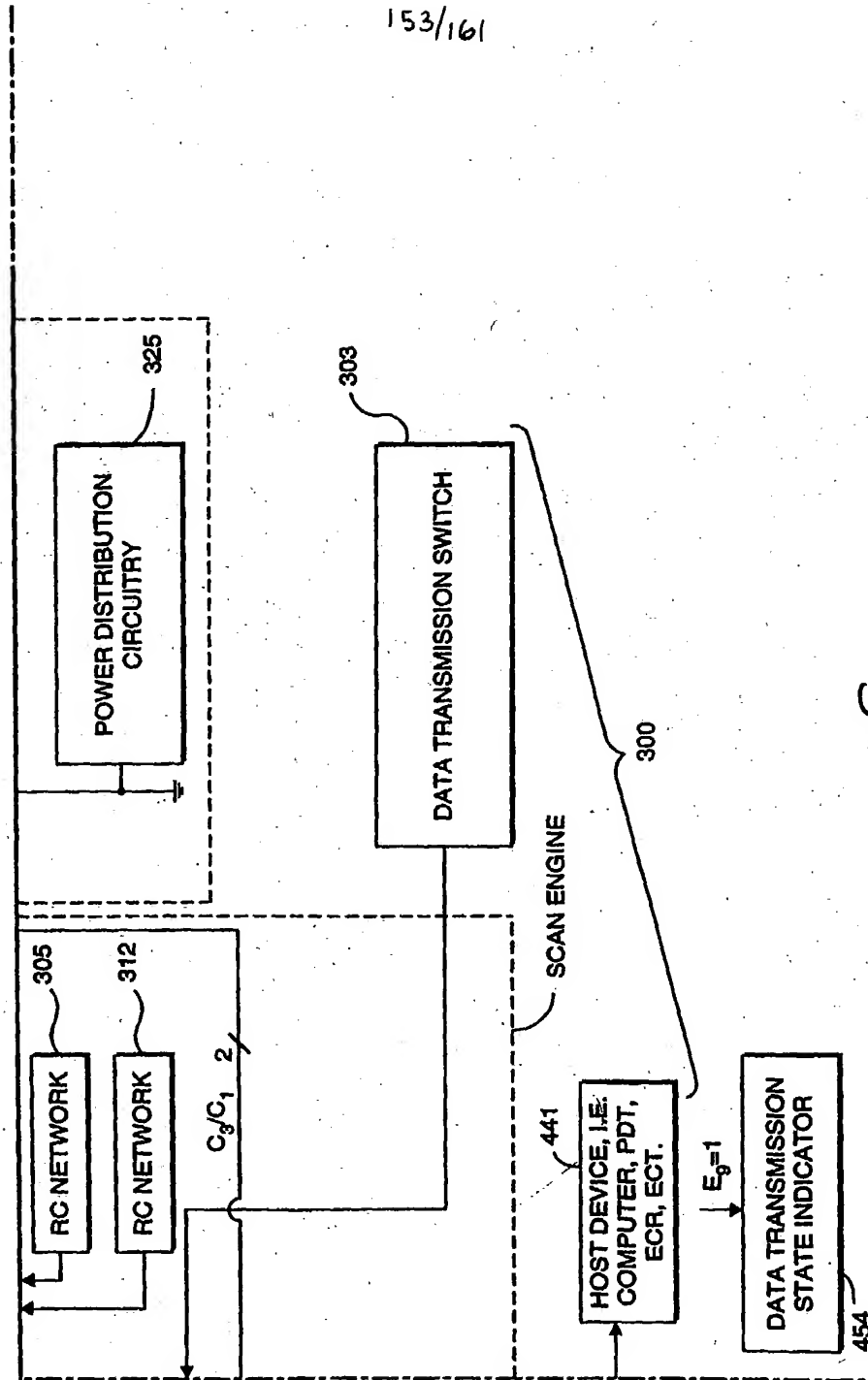


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FIG 47A3



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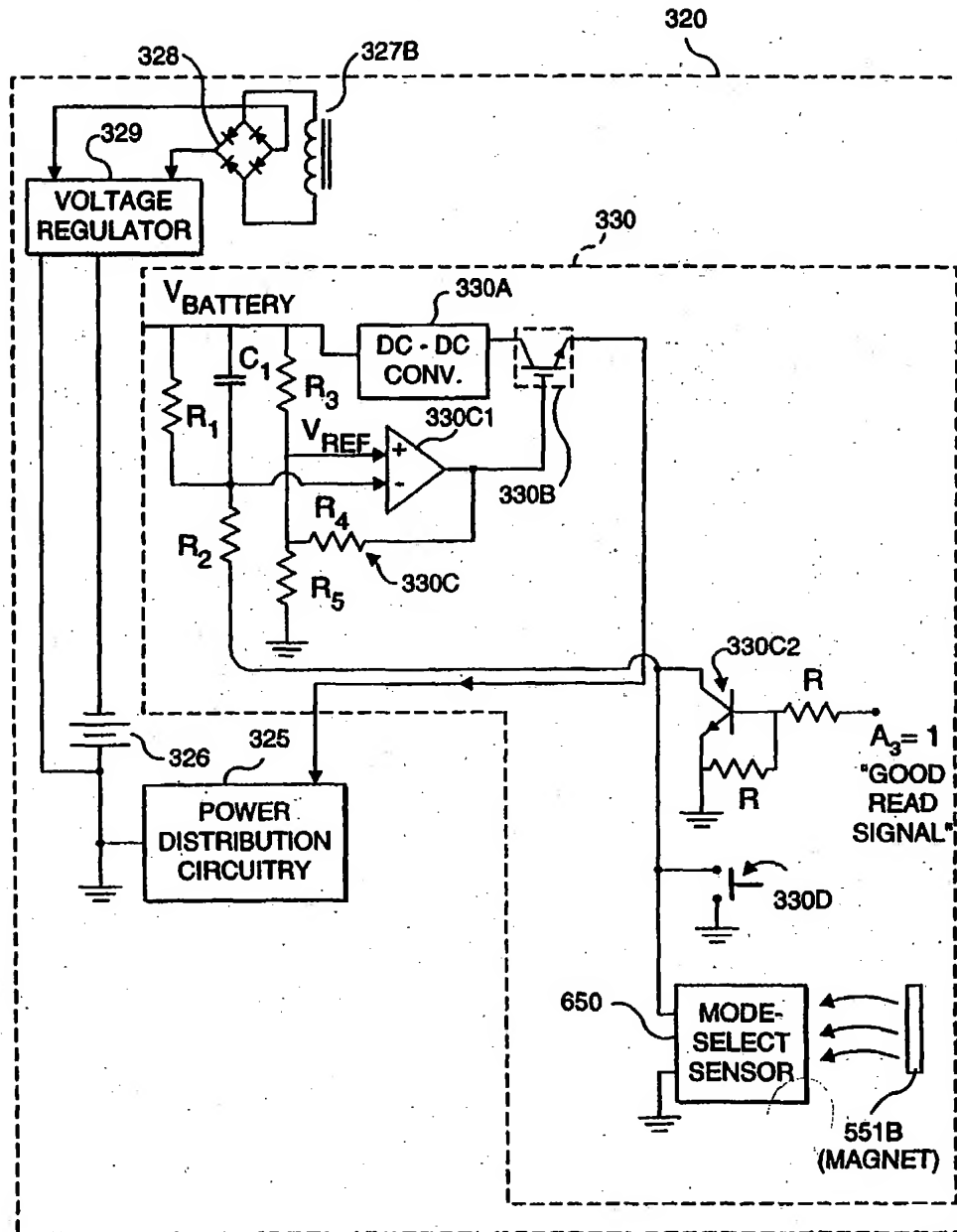


FIG. 47B

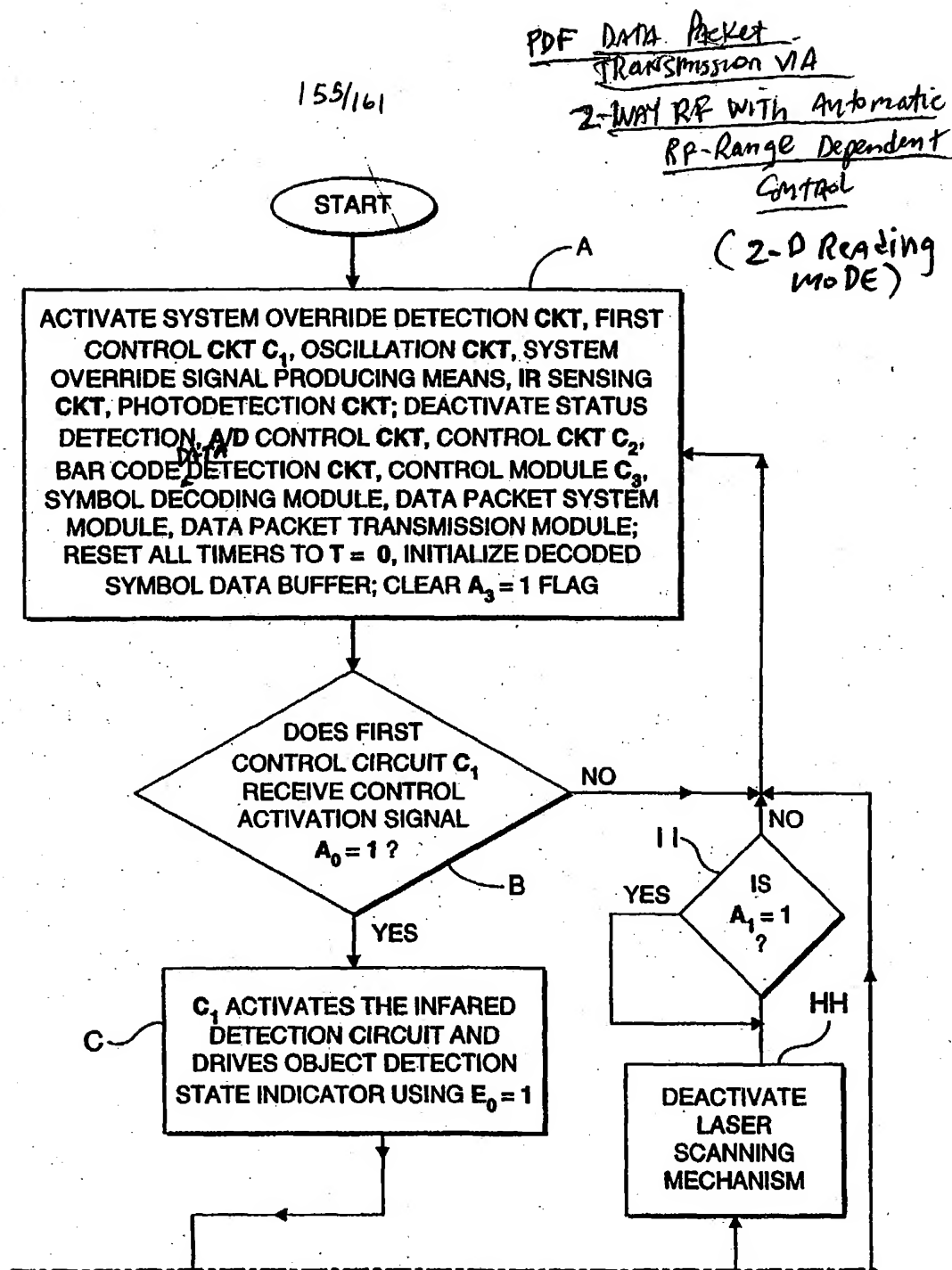
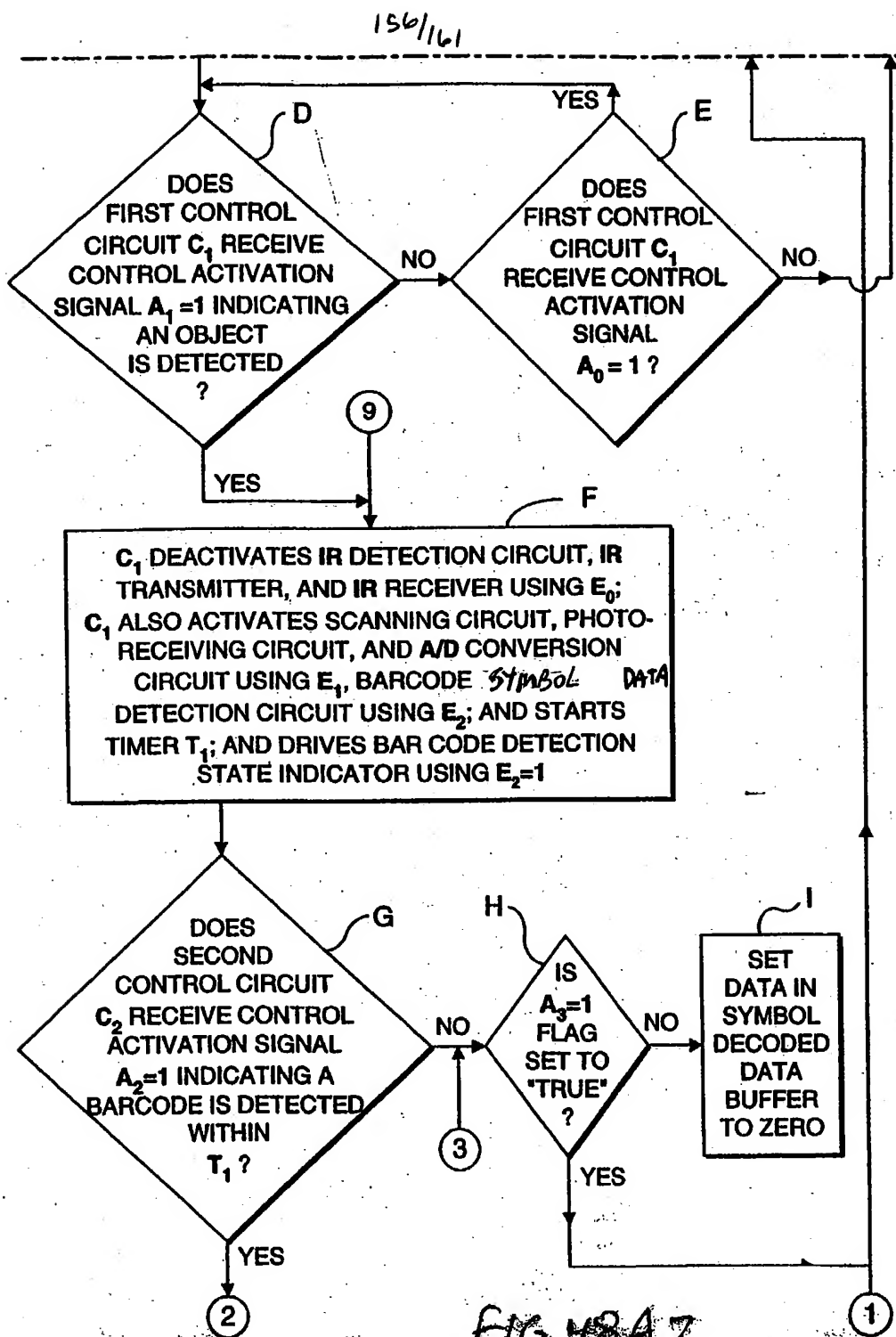


FIG. 48A1





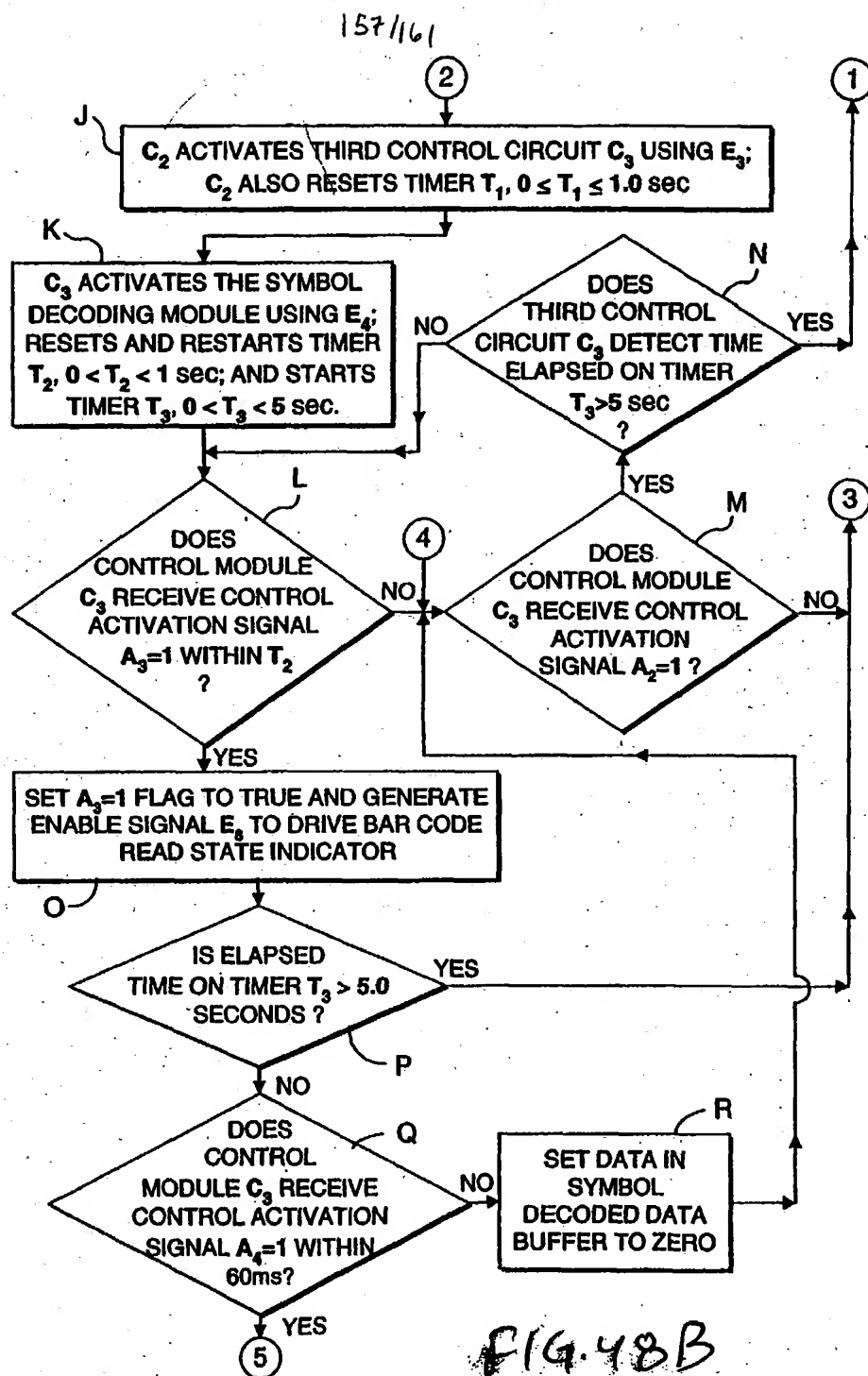


FIG. 48B

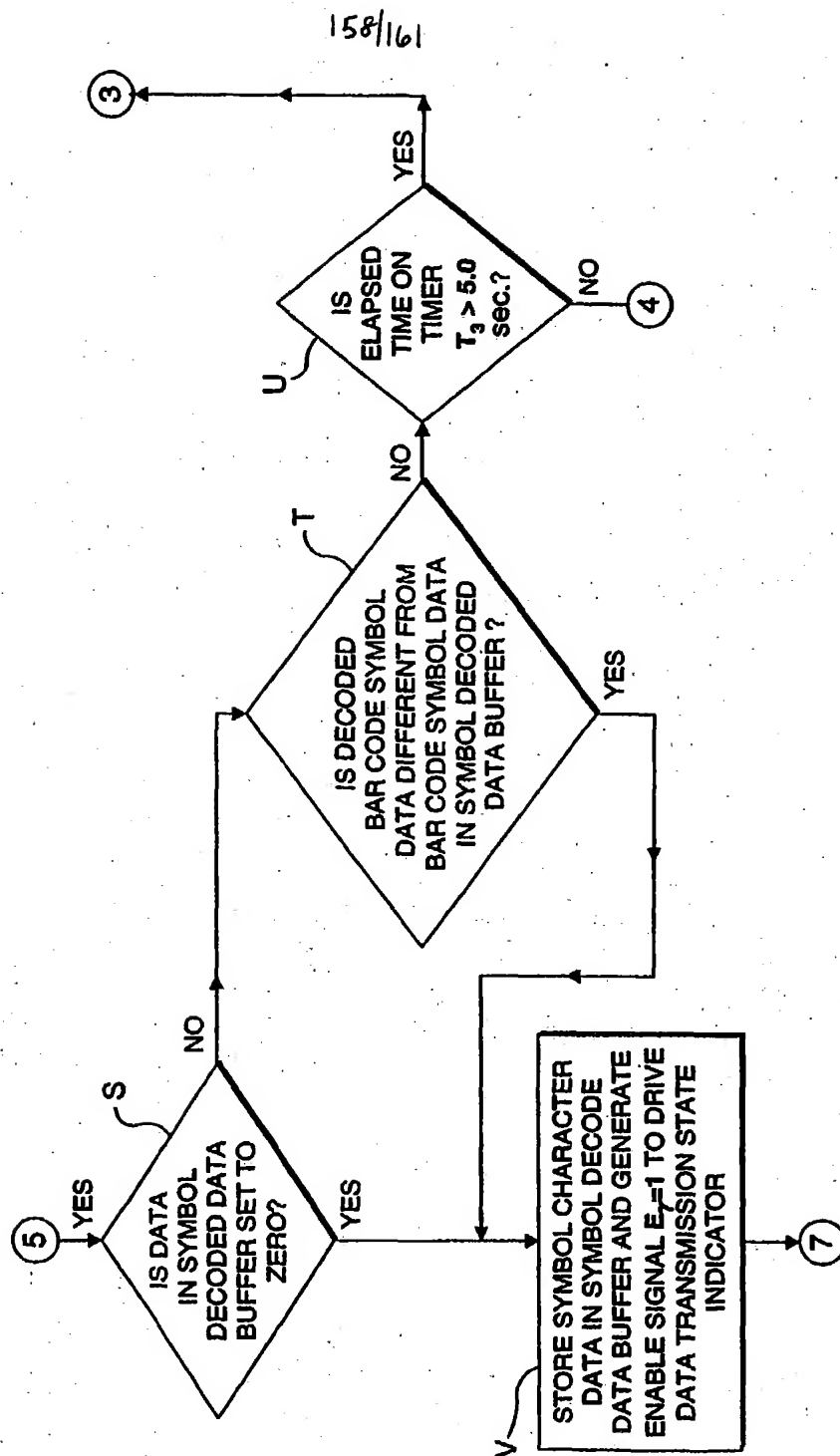


FIG 48c1

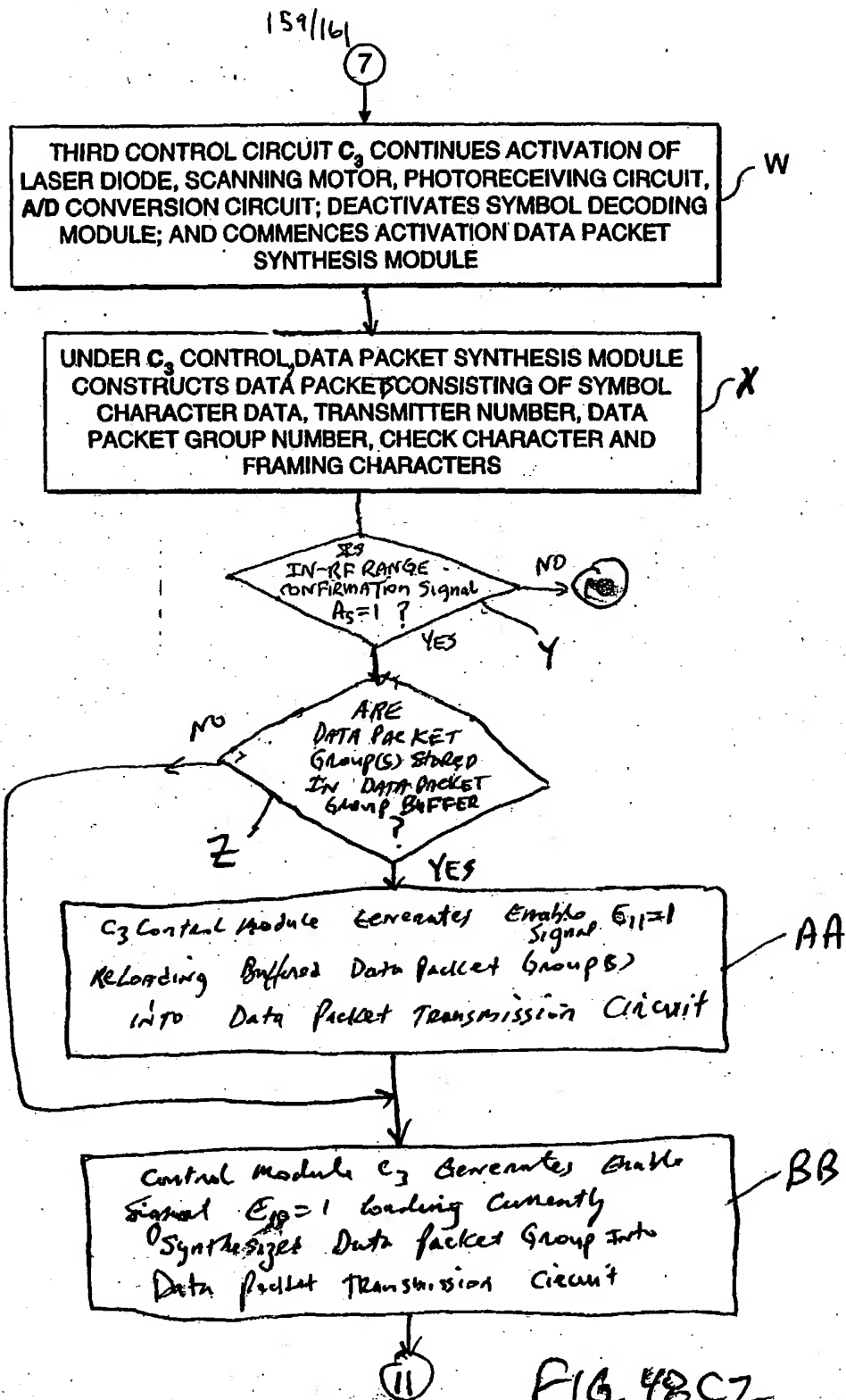


FIG. 48C2

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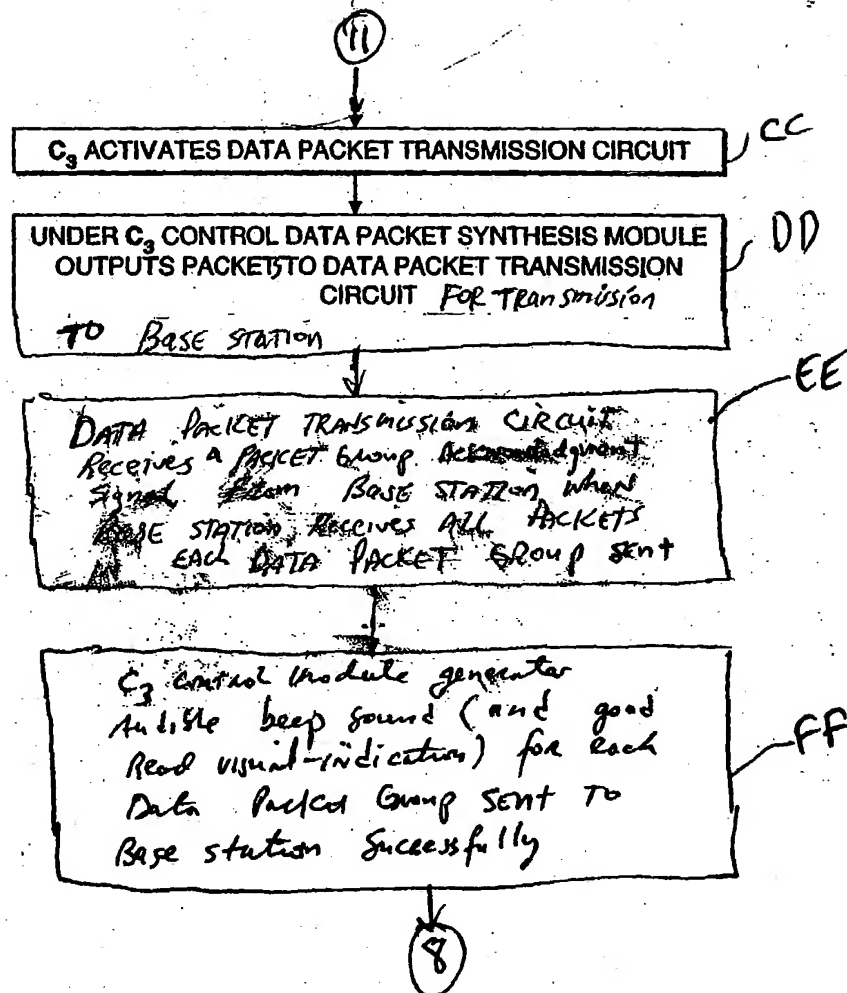


FIG. 48C3

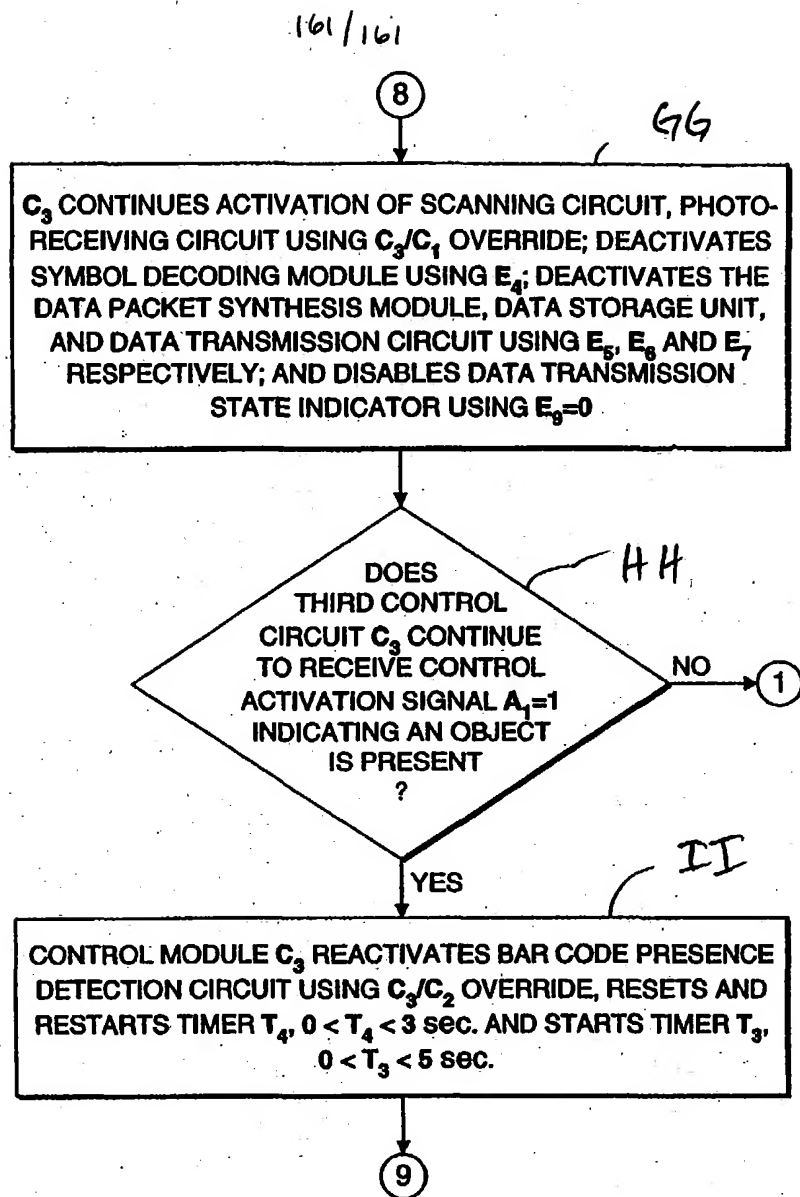


FIG. 48C4